

When Wanting and Fearing Go Together:  
The Interplay of Social Approach and Avoidance Motivation

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## ABSTRACT

Previous research has mainly focused on approach and avoidance motivation separately. This thesis uses a multi-method approach to investigate the hypothesis that both motivations have to be taken into account to understand affiliation motivation and its significance for experience and behavior. In this context, three main questions are of interest: 1) When is social approach and avoidance motivation and its co-occurrence influential (Part I)? 2) What are the underlying processes of the motivations (Part II)? and 3) What are their antecedents, concomitants, and consequences (Part III)?

Taking a developmental perspective, Part I discusses whether and, if so, how social approach and avoidance motivation and their co-occurrence might be of central importance for understanding success and failure in transitional phases, particularly in the transition from adolescence into adulthood. We hypothesize that the co-occurrence of social approach and avoidance motivation is characterized by ambivalent cognitions and emotions, and unstable behavior. Two studies in Part II investigate the effect of the co-occurrence of social approach and avoidance motivation on the processing of (Study 1,  $N = 78$ ) and reaction to (Study 2,  $N = 82$ ) positive and negative social cues. Both studies support the ambivalent nature of the co-occurring approach-avoidance motivation. Part III comprises three studies which show that social approach and avoidance motivation mediate the effects of attachment style on social-interaction anxiety (Study 1,  $N = 245$ ), that they predict experience of and behavior in social interaction (Study 2,  $N = 38$ ), and that only social avoidance motivation predicts global subjective well-being ( $N = 203$ ). Taken together, these three studies support the ambivalent character of social approach-avoidance co-occurrence in a concrete social situation. However, from a long-term perspective, the negative consequences of social avoidance motivation seem to prevail.

An overall discussion addresses, among other issues, the development of social approach-avoidance co-occurrence.

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## INTRODUCTION

Social affiliation appears to be a central human need (e.g., Baumeister & Leary, 1995; Deci & Ryan, 2000). The quantity and quality of social relationships have a causal impact on well-being, psychological and physical health, and even mortality (e.g., Birditt & Antonucci, 2007; Cohen, Gottlieb, & Underwood, 2000; Diener & Seligman, 2002; House, Landis, & Umberson, 1988). Given this tremendous importance, it is essential for people to create and maintain social relationships. However, individuals differ in their ability to initialize and maintain social ties. This thesis takes a motivational perspective to explain why some individuals are socially successful and others are not. More specifically, it focuses on the motivation to approach acceptance (social approach motivation) and the motivation to avoid rejection (social avoidance motivation). Previous research has repeatedly found that social approach motivation has positive consequences for the individual, whereas the opposite is true of social avoidance motivation (e.g., Elliot, Gable, & Mapes, 2006; McAdams & Vaillant, 1982; Mehrabian, 1994; Nurmi, Toivonen, Salmela-Aro, & Eronen, 1996; Pietrzak, Downey, & Ayduk, 2005; Strachman & Gable, 2006). In contrast to previous research, this thesis claims that we can only understand social motivation if we take into account both social approach *and* avoidance motivation (see also Asendorpf, 1989; Mehrabian, 1994; Sokolowski & Heckhausen, 2006). In other words, social approach and avoidance motivation should not be investigated separately but in combination. Past research has shown that both motivations are – at least at the dispositional level – uncorrelated (e.g., Mehrabian, 1994; Sokolowski, Schmalt, Langens, & Pucca, 2000). Thus, all combinations of low/high approach and avoidance motivation are possible. The main hypothesis of this thesis is that the co-occurrence of approach and avoidance motivation leads to different cognitions, emotions, and behavior compared to the main effects of social approach and avoidance motivation. In this case, three broad issues are of interest: 1) When is social approach and avoidance motivation and its co-occurrence influential (Part I)? 2) What are the underlying processes of the motivations (Part

II)? and 3) What are their antecedents, concomitants, and consequences (Part III)? After a general introduction to social approach and avoidance motivation, these issues are discussed in more detail.

### Social Approach and Avoidance Motivation

Social motivation is a fundamental need to belong to, and be approved of, by important social groups (Baumeister & Leary, 1995). It motivates people to positive self-presentation and elicits aversive affective arousal when inclusion and approval are threatened (Geen, 1991). The conditions of social motivation are defined as those in which the person is in direct contact with another person or a group of persons and the effect of this social presence is nondirective (i.e., the social entity does not provide specific cues to the individual about how to act in the situation). The effect on the individual is considered an intrapsychic state capable of initiating and/or intensifying behavior (Geen, 1991). People differ in how social situations affect their intrapsychic state. Some individuals are confident and have positive expectations in social situations, while others are fearful and have negative expectations. The former emotions and cognitions are expressions of social approach motivation, the latter of social avoidance motivation (Mehrabian, 1994).

Approach and avoidance motivation are two fundamental motivational dimensions that differ as a function of *valence*. In approach motivation, behavior is directed by a positive/desirable event or possibility, while in avoidance motivation, behavior is directed by a negative/undesirable event or possibility (e.g., Elliot, 1999). With regards to social contexts, approach motivation refers to behavior that is directed by anticipated acceptance and hope for affiliation, whereas avoidance motivation refers to behavior that is directed by anticipated rejection and fear of rejection (McClelland, 1985). In general, people react with approach tendencies towards stimuli signaling social acceptance and affiliation, and with avoidance tendencies when confronted

with stimuli signaling social disapproval or rejection. Not surprisingly, people want to belong and not be rejected. This, in itself, is not a new observation. It becomes interesting, however, if one considers that most social situations are ambiguous (e.g., Baldwin, 1992; Horowitz et al., 2006) and can be interpreted in terms of approach (i.e., as a chance for affiliation) or avoidance (i.e., as a threat of social rejection). In such cases, individual differences in social approach or avoidance motivation affect the interpretation of and reaction to the social situation. Approach-motivated individuals show greater attention to positive cues (Derryberry & Reed, 1994), positively biased interpretation of ambiguous social information (Strachman & Gable, 2006), enhanced processing of positive emotional information (Gomez & Gomez, 2002), and approach behavior (McAdams, 1992). In contrast, avoidance-motivated individuals show greater attention to negative cues (Downey, Mougios, Ayduk, London, & Shoda, 2004), negatively biased interpretation of ambiguous social information (Strachman & Gable, 2006), enhanced processing of negative emotional information (Gomez & Gomez, 2002), and inhibited behavior (Daly & Stafford, 1984; Schmidt & Fox, 1995). Not surprisingly, approach-motivated individuals are socially successful and have high subjective well-being (Elliot et al., 2006; Nurmi et al., 1996), whereas social avoidance motivation is negatively correlated with social success, subjective well-being, and mental health (Ayduk, Downey, & Kim, 2001; Elliot et al., 2006; Schmidt & Fox, 1995).

The main question of this thesis addresses the characteristics of high social approach *and* high social avoidance motivation (i.e., social approach-avoidance co-occurrence). Assuming the independence of the two motivational systems, social approach-avoidance co-occurrence should be associated with sensitivity to both, positive *and* negative social cues, enhanced processing of both positive *and* negative emotional information, and with both approach *and* avoidance behavioral tendency. In other words, approach-avoidance co-occurrence should be associated with highly *ambivalent* cognitions, emotions, and behavioral tendencies. This thesis investigates this ambivalent nature of approach-avoidance co-occurrence and its differences to the predominant

approach and avoidance motivation in several domains. Part I focuses on when social approach and avoidance motivation is influential. Taking a developmental perspective, we assume that approach and avoidance motivation and their co-occurrence might be important in understanding success and failure in transitional phases, particularly in the transition from adolescence to adulthood. Turning to the underlying processes of social approach and avoidance motivation, Part II focuses on the basic processing of and reactions to significant social cues. More specifically, it investigates how the interaction of social approach and avoidance motivation differs from the main effects in interpretation of and reaction to emotional faces. Finally, Part III broadens the focus on more complex experience of and behavior in real social interaction and on self-reported antecedents, concomitants, and consequences of social approach and avoidance motivation and their co-occurrence.

*Part I: The Interplay of Social Approach and Avoidance Motivation in the Transition to  
Adulthood*

Taking a developmental perspective, we first address the question of when social approach and avoidance motivation is influential. As mentioned above, individual differences in social approach and avoidance motivation might be particularly influential in ambiguous and unstructured social situations. Such situations might occur in phases of establishing new interpersonal relationships because this process is associated with novelty and, therefore, ambiguity, of social situations. Although establishing and maintaining interpersonal relationships is important across the entire life span (e.g., Cacioppo, Hughes, Waite, Hawkley, & Thisted, 2006; Freund & Riediger, 2003; Lang, 2004; Lerner, Brentano, Dowling, & Anderson, 2002; Ryff, 1989), it might be especially important in transitional phases. Transitional phases (e.g., moving to another city or changing workplace) are usually accompanied by breaking up old and finding new social ties, which demands socializing with people one does not yet know (e.g., Fingerman & Hay, 2002; Freeman & Brown, 2001). In other words, one has to display adequate social behav-

ior without having much information about which behavior would be most adaptive. As put forward by Caspi and Moffitt (1993), in such situations, individual differences might play a more important role than in familiar and predictable situations. Applying the argument of Caspi and Moffitt to the process of establishing social relationships, we claim that individual differences in social approach and avoidance motivation might determine social success in transitional phases. Although we assume that this might be true in all transitional phases, we focus on the transition from adolescence into young adulthood. To accomplish the central tasks of this transition (e.g., navigate social relations when entering working life), young adults have to interact with a relatively large number of unfamiliar people. However, unlike other age groups, for young adults this might be the first time in their lives that they have to manage such a situation alone, so that they face a wide scope of new social situations without having much experience in managing them.

Using a theoretical approach, Part I discusses the antecedents and consequences of social approach and avoidance motivation for the transition from adolescence into young adulthood. More importantly, we also highlight that social approach and avoidance co-occurrence might have different consequences in this phase compared to predominant approach motivation (i.e., high approach and low avoidance motivation) and predominant avoidance motivation (i.e., low approach and high avoidance motivation).

*Part II: The Interplay of Social Approach and Avoidance Motivation in the Interpretation of and Reaction to Emotional Faces*

In contrast to the broad developmental perspective of Part I, Part II focuses on the basic cognitive and behavioral processes of social approach and avoidance motivation and their co-occurrence. More specifically, Part II addresses the very basic processes of responses to isolated social cues under controlled conditions in two laboratory studies. The question here is how social

approach and avoidance motivation and their co-occurrence are associated with the interpretation of and a reaction to a single social cue.

Part II is based on the assumption that people evaluate almost all stimuli on a positive-negative dimension and they do it automatically (Bargh, 1997; Zajonc, 1998). The positive or negative evaluation is inherently linked to a behavioral tendency to move toward or away from the stimulus (Cacioppo, Priester, & Berntson, 1993; Chen & Bargh, 1999; Förster, Higgins, & Idson, 1998). We argue that the automatic evaluation of, and reaction to, positive and negative social stimuli is influenced by the dispositional approach and avoidance motivation. As stated above, past research has found that social approach motivation is associated with sensitivity to and enhanced processing of positive social cues, whereas social avoidance motivation is associated with sensitivity to and enhanced processing of negative social cues (e.g., Downey et al., 2004; Strachman & Gable, 2006). The first aim of Part II is to replicate these findings. The second, more important, goal is to test the hypothesis that social approach and avoidance also *interact* in predicting the processing of and reaction to relevant social cues. The main assumption is that an activation of social approach motivation leads to enhanced processing of and reaction to positive social cues; an activation of social avoidance motivation to enhanced processing of and reaction to negative social cues, and an activation of both motivations to enhanced processing of and reaction to *all* social cues.

Using social-cognitive combined with correlational research methods, we conducted two studies to test these hypotheses. The first study investigates how social approach and avoidance motivation and their interaction predict the interpretation of ambiguous social stimuli (i.e., masked emotional faces). We anticipate that social approach motivation is associated with a tendency to interpret ambiguous facial expression in a positive way, social avoidance motivation in a negative way. Social approach-avoidance co-occurrence should be associated with an ambivalent interpretation that might be reflected in an amplification of the main effects of approach and

avoidance motivation. The second study investigates reactions to clearly positive and negative social stimuli (i.e., happy and angry faces). Social approach motivation should be associated with faster approach reactions to happy faces, social avoidance motivation to faster avoidance reactions to angry faces. Interaction of approach and avoidance motivation should be related to high preparedness to react to positive *and* negative facial expressions.

*Part III: The Interplay of Social Approach and Avoidance Motivation in Behavior, Affect, and Cognition*

Part III broadens the focus again, shifting attention from the very basic cognitive and behavioral processes to more complex experience and behavior in actual social interaction and further to developmental antecedents, concomitants, and long-term consequences of social approach and avoidance motivation. After breaking down the motivations into single reactions to isolated social cues in Part II, in a similar way to Part I, Part III addresses the question of broader antecedents, concomitants, and consequences of social approach and avoidance motivation and their co-occurrence. In contrast to the theoretical approach of Part I, Part III uses a multi-method empirical approach, comprising self-report, external behavior observation as well as self-ratings of one's own social behavior. The main questions addressed in Part III are (1) the question of self-reported developmental antecedents of social approach and avoidance motivation and their interaction (Study 1), (2) the question of the interplay of social approach and avoidance motivation in self-reported experience of, and observed behavior in, unstructured social interaction with a previously unknown social partner (Study 2), and (3) the relation of social approach and avoidance motivation and their interaction with global subjective well-being.

Study 1 puts social approach and avoidance motivation and their co-occurrence in a broader context of related constructs (i.e., attachment styles, personality, related neurobiological systems). Here, we highlight in particular the phenomenon of social approach-avoidance co-occurrence in association with different but related constructs and emphasize its difference to



predominant approach and avoidance motivation. Study 2 creates a situation that might be typical for establishing new social relationships because of its novelty and lack of clear structure, and focuses on the differences between social approach and avoidance motivation and especially their co-occurrence in the experience of, and behavior in, such a situation. Generally speaking, we anticipate positive consequences of social approach motivation for cognitions, emotions, and behavior, and negative consequences of social avoidance behavior, and ambivalent consequences of their interaction. Finally, Study 3 tests an important question of subjective well-being and its relation to social motivation. The difference between social avoidance motivation and the social approach-avoidance interaction with regards to subjective well-being are of particular interest. Is the approach-avoidance co-occurrence less beneficial for subjective well-being than social avoidance motivation because of its conflicting and ambivalent nature? Or does the positive effect of approach motivation buffer the negative effect of avoidance motivation on subjective well-being, resulting in little or no association between co-occurring approach and avoidance motivation and subjective well-being? These alternative hypotheses are tested via self-report in Study 3.

### Summary

To sum up, the main focus of this thesis is on the interplay of social approach and avoidance motivation in cognitions, emotions, and behaviors. Using a multi-method theoretical and empirical approach, it tests the main hypothesis that social approach-avoidance co-occurrence has different antecedents, concomitants, and consequences compared to predominant approach and avoidance motivation. The main assumption is that approach-avoidance co-occurrence is associated with *ambivalent* cognitions, emotions, and behaviors, whereas social approach motivation has primarily positive and social avoidance motivation primarily negative consequences.

One theoretical contribution (Part I) and five empirical studies (Part II and III) test this assumption using different approaches.

PART I

THE INTERPLAY OF SOCIAL APPROACH AND AVOIDANCE MOTIVATION IN THE  
TRANSITION TO ADULTHOOD

### Abstract

Social affiliation appears to be a central human need. Taking a developmental perspective, we discuss whether and how the desire to belong (approach motivation) and the fear of being rejected (avoidance motivation) might be of central importance for understanding success or failure in transitional phases, especially in the transition from adolescence into adulthood. Cognitive, emotional, and behavioral consequences of social motives (approach, avoidance, and their co-occurrence) are reviewed. We argue that both tendencies need to be taken into account for understanding affiliation motivation and behavior and its significance for life satisfaction and well-being. A predominant social approach motivation has positive consequences for cognition, behavior, emotion, and well-being, whereas the opposite pattern holds for a predominant avoidance motivation. Co-occurrence of both is characterized by ambivalent cognitions and emotions, and unstable behavior. Taking a developmental perspective, however, and considering social development in the transition to adulthood, co-occurrence might be more beneficial than a predominant avoidance motivation.

## Introduction

Imagine a young woman entering a class for the very first time at the beginning of her time at college. She might be looking forward to meeting new people and making new friends. At the same time, however, she might fear that her fellow students might not like her very much and that she might be excluded from social groups. Experiencing these ambivalent feelings, she sits down and tries to speak to one of the students sitting next to her. The conversation is not really successful. It drags on for a while and, finally, ends in an embarrassing silence. She would like to try another conversational topic, but nothing springs to her mind. So she keeps quiet, feeling awkward, but hoping that her next approach will be more successful.

In this paper, we explore some of the motivational factors that might contribute to this young woman's social experience and behavior. We argue that social approach and avoidance motivation might be important in understanding social experience and behavior, particularly in transition phases such as the one from adolescence into adulthood. Moreover, social approach and avoidance motivation influence significantly success or failure in social relationships (e.g., Gable, 2006), one of the most important aspects of subjective well-being (Diener & Seligman, 2002).

The ability to establish and maintain interpersonal relationships is one of the central milestones of successful development. Although this is true across the entire life span (e.g., Cacioppo et al., 2006; Freund & Riediger, 2003; Lang, 2004; Lerner et al., 2002; Ryff, 1989), building positive social relations might be particularly important in the transition from adolescence into young adulthood. Some of the central developmental tasks in this transition are establishing autonomy and independence from the parental home, building meaningful social ties and friendships with peers, establishing a romantic relationship, and being able to navigate social relations

when entering the working life (Arnett, 2000; Eccles, Templeton, Barber, & Stone, 2003; Gullotta, Adams, & Montemayor, 1990).

To accomplish these tasks, young adults have to interact with a relatively large number of unfamiliar people (e.g., Fingerman & Hay, 2002; Freeman & Brown, 2001). Different to other age groups, where such situations might also appear (for example as a consequence of moving to another city or of changing the work place), for young adults this might be the first time in their lives when they have to manage such situation alone. Socializing with people one does not know yet creates pressure to show adequate social behavior without having much information about what behavior would be most adaptive. As argued by Caspi and Moffitt (1993), in such situations, individual differences might play more important role than in familiar and expectable situations. One of the most important individual differences that influence social-related transitions should be the dispositional affiliation motivation: not only whether a person is high or low in affiliation motive, but also whether the affiliation motive is characterized by *approach* or *avoidance* tendencies might determine social success, particularly when getting to know new people (Sokolowski & Heckhausen, 2006). In this paper, we do not only discuss the antecedents and consequences of social approach and avoidance motivation but also highlight that social approach and avoidance can *co-occur* within a person. We review literature showing that social approach and avoidance motivation have differential cognitive, emotional, and behavioral features and different consequences for subjective well-being and life satisfaction, particularly in the transition into adulthood. In addition, we propose possible consequences of co-occurring approach-avoidance motivation for social experience and behavior. We believe that this approach adds to our understanding of factors contributing to positive social experiences and behaviors.

*Social Approach and Avoidance Motivation*

The desire to belong and to be socially accepted as well as to avoid social rejection or even isolation is a central human need (Baumeister & Leary, 1995). In general, people react with approach tendencies towards stimuli signaling social acceptance and affiliation and with avoidance tendencies when confronted with stimuli signaling social disapproval or rejection. Not surprisingly, people want to belong and not be rejected. However, most social situations are ambiguous (e.g., Baldwin, 1992) and can be interpreted in terms of approach (i.e., as a chance for affiliation) or avoidance (i.e., as a threat of social rejection). How such ambiguous situations are interpreted depends, among other things, on the person's motivational state (Derryberry & Reed, 1994; Maner et al., 2005; Strachman & Gable, 2006). A person's motivational state at a given time is influenced by his or her dispositional approach and avoidance motives. Thereby, dispositional motives influence the motivational state, which, in turn, influences sensitivity towards motive-congruent information and impacts upon behavior.

In the affiliation domain, approach motivation refers to a dispositional orientation towards positive, hoped-for social incentives, whereas avoidance motives refer to an orientation away from negative, feared social incentives (McClelland, 1985). Approach and avoidance motivation can be found on the level of more automatic and non-conscious implicit motives as well as on the level of self-reported, explicit motives and goals (e.g., Ebner, Freund, & Baltes, 2006; Elliot et al., 2006; Sokolowski et al., 2000). Implicit motives on the one side and explicit motives and goals on the other are two distinct motivational systems (Brunstein, Schultheiss, & Grässman, 1998; McClelland, Koestner, & Weinberger, 1989). It is not well understood yet, which role approach and avoidance tendencies play on these two levels. Gable (2006) proposed a model of social motivation, where approach and avoidance social goals are proximal features of more distal approach and avoidance social (implicit and explicit) motives. In our view, social implicit motives seem particularly well suited for explaining automatic evaluative processes and emo-

tional as well as behavioral reactions in ambiguous social situations, because they are dispositionally pre-activated and most likely to emerge in unstructured or ambiguous situations (Brunstein et al., 1998; McClelland et al., 1989; Murray, 1943). However, as we are not aware of studies that would show different consequences of approach and avoidance social motivation regarding different motivational levels, we review literature to both implicit and explicit motives as well as goals.

Approach and avoidance orientation are largely independent of each other and show differential effects on emotion, cognition, and behavior (e.g., Davidson, 1993; Gable, 2006; Gray, 1982; Miller, 1944; Sokolowski et al., 2000). Previous research has dealt separately with approach and avoidance motivation (e.g., Coats, Janoff-Bulman, & Alpert, 1996; Dickson & MacLeod, 2004; Elliot & Covington, 2001; Förster, Grant, Idson, & Higgins, 2001; Gable, 2006). Lewin (1935) was one of the few motivation researchers who considered the *simultaneous occurrence* of approach and avoidance tendencies. In his field theory, Lewin emphasized that any given object (or event) can, at the same time, possess positively valued aspects (leading to approach tendencies) and negatively valued aspects (leading to avoidance tendencies). If there is no clear dominance of one of these tendencies (attract or repel) and both tendencies are strong, a person experiences a conflict, which is expressed as an inability to perform goal-directed behavior and feelings of tension.

We want to follow up on Lewin's proposal of co-occurrence of approach and avoidance tendencies in response to the same object or event. Thus, we argue that approach and avoidance motivation can be combined into four motivational states (see Table 1). If approach motivation is high and avoidance motivation low, then *approach dominance* results. Conversely, if approach motivation is low and avoidance motivation high, then *avoidance dominance* results. *Co-occurrence* of the two motives occurs when both approach and avoidance motivation is high. Finally, a generally low affiliation motivation is the expression of low approach and low avoid-



ance motivation. We will attempt to understand the cognitive, emotional, and behavioral processes related to the co-occurrence of social approach and avoidance motives (but see Mehrabian, 1994; Sokolowski & Heckhausen, 2006). The question we are addressing is about what happens cognitively, emotionally, and behaviorally when a given situation activates a motivational orientation towards approach and, at the same time, towards avoidance. We will first discuss social approach and avoidance motivation as independent motivational systems and then review the literature on the consequences of social motives, showing that high social avoidance motivation might make the transition into adulthood particularly difficult regarding establishing and maintaining new social ties.

Table 1. *Part I. Approach and Avoidance Social Motivation: Predominance and Co-Occurrence*

		Approach	
		Low	High
Avoidance	Low	Low Social Motivation	Approach Dominance
	High	Avoidance Dominance	Approach-Avoidance Co-Occurrence

### *Approach and Avoidance Motivation as Independent Motivational Systems*

One of our main assumptions is that approach and avoidance motivation are two independent motivational systems that can be activated simultaneously. Approach and avoidance motivation are only marginally correlated (Mehrabian, 1994; Sokolowski et al., 2000, see also Ebner, Freund, & Baltes, 2006, for moderate correlations between approach and avoidance motivation on the level of personal goals). Moreover, differential associations with other constructs support the notion of two independent motivational systems in such diverse areas as personality, emotion, cognition, and neurophysiology. For instance, Gable and colleagues (Gable, Reis, & Elliot, 2003) found evidence for two motivational systems, one concerned with obtaining positive outcomes, the other concerned with avoiding negative outcomes. Indicators of the avoidance system were neuroticism, negative affect, behavioral inhibition (BIS), self-reported fear motive,

implicit fear motive, avoidance coping style and negative temperament. Indicators of the approach system were extraversion, positive affect, behavioral activation (BAS), self-reported hope motive, implicit hope motive, approach coping style and positive temperament. In line with Carver et al. (2000), the authors concluded that the perception of, and reaction to, positive environmental cues are managed by an underlying appetitive regulatory system, whereas, the perception of, and reaction to, negative environmental cues are managed by underlying and separate aversive regulatory systems. These two systems are activated by different environmental stimuli, may function through discrete mechanisms, and are associated with different outcomes. In the next section, we report empirical evidence on the different cognitive, emotional, and behavioral consequences of approach and avoidance motivation (summarized in Table 2).

Table 2. *Part I. Emotional, Cognitive, and Behavioral Consequences of Approach and Avoidance Motivation*

	Approach Motivation	Avoidance Motivation
Attentional Focus	Positive Social Incentives	Negative Social Incentives
Emotions	Positive Affect	Negative Affect
Behavioral Preactivation	Active Approach Behavior ("Eagerness")	Passive Avoidance Behavior ("Vigilance")
Subjective Well-Being	High	Low

#### *Differential cognitive consequences of approach and avoidance motivation*

Approach and avoidance motivation appear to be associated with different information processing, like perception and interpretation of social information and memory processes (Derryberry & Reed, 1994; Gomez & Gomez, 2002; Strachman & Gable, 2006). Selective attention is often viewed as a flexible "spotlight" that serves to facilitate the processing of information toward which it is oriented (Posner, 1978), and the direction of the focus is influenced by motivational processes (Derryberry & Reed, 1994). Regarding approach and avoidance motivation,

Derryberry and Reed (1994) found that, whereas positive cues elicit greater attention in approach-motivated people, negative cues elicit greater attention in avoidance-motivated people. Similarly, Gray (1982) postulated that BIS detects signals of punishment, and BAS detects signals of reward. BIS and BAS have been associated with avoidance and approach motivation, respectively (Gable et al., 2003). In addition to attention, approach and avoidance motivation have also been found to influence memory and evaluation processes. Gomez and Gomez (2002) showed that approach motivation was associated with the processing of positive emotional information and avoidance motivation with the processing of negative emotional information. Participants high in approach motivation (BAS sensitivity) completed ambiguous words in a more positive manner in a word fragmentation task, identified more positive words correctly as positive in a word recognition task, and recalled more positive words in a word-recall task. In contrast, participants high in avoidance motivation (BIS sensitivity) completed ambiguous words in a more negative manner, identified more negative words correctly as negative, and recalled more negative words than participants high in approach motivation. Similarly, in two studies, Strachman and Gable (2006) found that social avoidance motivation was correlated with greater memory for negative information, a negatively biased interpretation of ambiguous social cues, and a more pessimistic evaluation of social actors. Social approach motivation was not correlated with the amount of remembered positive information but was associated with processing neutral social information with a positive view. Moreover, when participants were given a social goal that was not congruent with their dispositional social motivation, they were more likely to reword it in a congruent goal (e.g., participants given avoidance social goals changed them into approach goals). In sum, then, approach motivation appears to facilitate processing of positive information, whereas avoidance motivation appears to facilitate processing of negative information.

*Differential Emotional Consequences of Approach and Avoidance Motivation*

With Higgins (Higgins, 1997, see also Carver et al., 2000), we assume that the emotional experience of approach and avoidance motivation in social situations is best described as the consequence of two different regulatory systems that concern either positive and pleasurable experiences or negative and painful experiences. The stronger the approach motivation, the stronger cheerfulness-related emotions are when obtaining positive outcomes and the stronger dejection-related emotions are when failing to obtain positive outcomes. In contrast, avoidance motivation is proposed to be associated with quiescence-related emotions when a negative outcome does not occur and with agitation-related emotions when the feared negative outcome does occur (Higgins, 1997). A number of studies by Higgins and colleagues support these assumptions (e.g., Förster et al., 2001; Higgins, Roney, Crowe, & Hymes, 1994). Applied to social approach and avoidance motives, this implies that avoidance-motivated people might experience high negative affect (agitation-related emotions) in social situations when they fear rejection and low negative affect (quiescence-related emotions) when they are not rejected. Approach-motivated people might experience high positive affect (cheerfulness-related emotions) when in an affiliation situation and low positive affect (dejection-related emotions) when they fail to affiliate with others.

*Differential Behavioral Consequences of Approach and Avoidance Motivation*

In addition to cognition and emotion, approach and avoidance motivation are also associated with different behavioral tendencies. Based on Higgins' research, one could expect avoidance-motivated individuals to show vigilant behavior in order to ensure safety and non-losses. Approach-motivated individuals could be expected to show eager behavior in order to attain advancement and gains (Higgins, 1997). The following summary shows that empirical evidence confirms these expectations.

As already mentioned, one could expect avoidance motivation to lead to timid behavior as the avoidance of negative outcomes is most important in this motivational state. This might be expressed in hesitation, reacting to others instead of actively approaching them, or avoiding conflict, to name a few examples. This is supported by research on motives (for a summary of the research, see Koestner & McClelland, 1992). High avoidance motivation is positively associated with the likelihood of compliance with requests (probably rooted in an attempt to avoid interpersonal conflict), with aversion to and performing worse in competitive interpersonal endeavors (probably so as not to outperform others, which might lead to social tension), and with higher achievement in classes led by warm and friendly instructors (because the perceived probability of rejection might be smaller). In contrast, approach motivation in social situations might be primarily associated with self-confident and relaxed behavior, as well as with active approach behavior in social contexts. Findings by McAdams and colleagues (for a summary of the research, see McAdams, 1992) support this view: high approach motivation is positively associated with involving all group members in spontaneous and convivial exchange, positioning oneself in closer proximity to others, showing more eye contact, smiling, and laughing in friendly one-on-one conversations, and having a greater level of self-disclosure and listening in conversations with friends.

Due to their differential relationships to behavior, approach- and avoidance-motivated people also differ in regard to their social success. Mehrabian and colleagues (for a summary of the research, see Mehrabian, 1994) found that people with high approach motivation are more liked by others than people with low approach motivation, they feel more confident in social situations, and their friendliness “spills over” to their social partners. In contrast, people with high avoidance motivation feel tense when in social situations and this tension tends to spill over to their interaction partners. Avoidance-motivated people have low confidence, are timid, and see themselves as unpopular and isolated, though they do not interact with others less than approach-

motivated people. Moreover, they have lower social skills and their behavior in social situations makes them feel inadequate and incompetent. Not surprisingly, highly avoidance-motivated people are relatively unpopular (e.g., Atkinson, Heyns, & Veroff, 1954). The low popularity of avoidance-motivated people might also be the result of their reluctant behavior and possibly lacking adjusted behavioral strategies to get in contact with others. In contrast, their peers rate highly approach-motivated people as sincere, loving, and natural. Students with high approach motivation are described by their teachers as more friendly, affectionate, sincere, cooperative, and popular than students with low approach motivation (McAdams & Powers, 1981).

### *Differential Consequences of Approach and Avoidance Motivation for Well-Being*

Subjective well-being is most often defined in terms of frequent positive affect, infrequent negative affect, and high life satisfaction (e.g., Diener, Suh, Lucas, & Smith, 1999). As predictors of well-being have been identified life circumstances and demographics, traits and dispositions, and intentional behaviors (Lyubomirsky, Sheldon, & Schkade, 2005). Within these three categories, personality traits account for the largest portion of the individual variance in subjective well-being (40-50%, Diener et al., 1999). In research on personality traits and subjective well-being, extraversion and neuroticism emerge as the two most robust predictors of well-being. As to be expected given the content of these personality dimensions, extraversion is positively related to subjective well-being, while neuroticism is associated with low subjective well-being (e.g., Costa & McCrae, 1980; Emmons & Diener, 1985). Importantly, social affiliation seems to be the most frequently used strategy for enhancing subjective well-being and a mediator between personality and subjective well-being (Tkach & Lyubomirsky, 2006). People who socialize a lot with others are happier than those who do not. Thus, as approach social motivation is characterized by high exposure to positive social events (Gable, 2006), approach-motivated individuals might have higher well-being than those low on approach motivation.

In a study on approach and avoidance social motivation and friendship approach and avoidance goals, Elliot et al. (2006) found that social approach motivation was a positive predictor of approach goals, and, approach goals, in turn, were a positive predictor of subjective well-being. In contrast, neuroticism was found to be positively related to the adoption of avoidance personal goals and individuals with a greater proportion of avoidance goals (related to approach goals), in turn, reported not only lower subjective well-being than those with a smaller proportion of avoidance goals, but also a decrease in subjective well-being over time (Elliot, Sheldon, & Church, 1997). Regarding friendship goals, social avoidance motivation was found to be a predictor of avoidance goals, which positively predicted loneliness, the frequency of negative relational events, and the impact of negative relational events to well-being (Elliot et al., 2006).

In a study on social reaction styles, Eronen and colleagues (Eronen, Nurmi, & Salmela-Aro, 1997) found that an avoidant style (which was measured as high levels of social avoidance and negative affect in statements to cartoons of social situations) was associated with low levels of well-being and social adjustment one to three years later. The association between social avoidance motivation and low well-being seems to be mediated by a readiness to perceive such negative cues like rejection (Downey & Feldman, 1996; Downey, Freitas, Michaelis, & Khouri, 1998) and to react more strongly to this negative cues (Gable, 2006). Also, as argued earlier, avoidance motivation is associated with frequent experience of negative affect, which, in turn, leads to lower subjective well-being. In contrast, recurrent exposure to positive social events (Gable, 2006) and frequent experience of positive affect in social situations seem to mediate the association between social approach motivation and high well-being.

In sum, we have defined approach motivation as sensitivity to signs of social acceptance. Research supports the notion that approach-motivated people are more likely to detect and remember positive social incentives, experience positive emotions in social interactions, and behave in an active approach manner. They are also more successful in social situations than

avoidance-motivated people and have higher well-being. In contrast, avoidance-motivated people are more likely to detect and remember negative social incentives, show vigilant avoidance behavior, and experience negative emotions in social situations.

*Motivational Focus: Predominance and Co-occurrence of Approach and Avoidance*

*Motivation*

Thus far, we have reported empirical findings on the consequences of approach and avoidance motivation separately. In the next section, we will address how the interplay of approach and avoidance motivation in the affiliative domain might affect attention, reactions to positive and negative outcomes, social behavior, and subjective well-being. As we discussed above, one of our main assumption is that approach and avoidance motivation are two independent motivational systems that can be activated simultaneously and results in four possible combinations (see Table 1). We assume that *approach dominance* results from a high social approach motive coupled with a low avoidance motive. Because of the predominance of social approach motivation, the consequences of the social motivation should be basically the same for this group as discussed above in terms of a high approach motivation. Similarly, *avoidance dominance* results from a low social approach motive coupled with a high avoidance motive with the same consequences as discussed in terms of a high avoidance motivation. The group with *co-occurring motives* (high approach / high avoidance) is the most interesting in the present approach, as – with a few noteworthy exceptions (Asendorpf, 1990; Asendorpf & Wilpers, 1998; Lewin, 1935; Mehrabian, 1994) – there is almost no research on the co-occurrence of approach and avoidance motivation and on the question, which role it plays in the transition into adulthood. Our discussion will therefore focus mainly on this group. Since a group with a low approach and a low avoidance affiliation motive is basically a group of people with a generally low affiliation motivation, they should be generally less sensitive to social as compared to other



stimuli and their behavior should mainly be directed by other motives. Therefore, we will not discuss this group any further.

### Approach-Avoidance Co-occurrence

When both approach and avoidance motivation are high, equally high sensitivity to positive and negative incentives should result. Therefore, people holding concurrent motives might be highly likely to perceive positive (acceptance) *and* negative (rejection) social incentives in a given social situation. There are mainly two possibilities of how this dual focus may be cognitively processed. One possibility is a simultaneous perception and integration of both positive and negative aspects of a given social situation. The other possibility is a fluctuation between positive and negative interpretations of the same stimuli. For instance, the smile of a new colleague can be interpreted as making fun of my impossibly clumsy social behavior or as friendliness and a sign of inviting interaction.

Either way, in principle, the effects of having both approach and avoidance tendencies might be beneficial because perceiving both positive and negative aspects of social situations could lead to behavioral strategies that simultaneously maximize positive incentives and minimize negative ones. Sokolowski and Heckhausen (2006) hold that co-activation is a regulation mechanism for negotiating distance and proximity, which is destabilized if one of the components is too dominant. However, perceiving both positive and negative aspects of a given situation could also be disadvantageous if it leads to information overload and emotional as well as behavioral ambiguity. If there are multiple situational cues pointing in different behavioral directions, confusion may result. To which of the many salient acceptance- and rejection-relevant cues should one respond in a given situation? Should one keep a low profile, not risking rejection? Or should one gain social approval and acceptance with socially engaging behaviors? Clearly, both kinds of strategies cannot be executed at the same time. A person who is socially

active and forthcoming risks rejection, and a person who is quiet and passive might be overlooked easily. A behavioral strategy conforming to one of the motivational tendencies is likely to be incompatible with the other one, leaving the person in a dilemma as to what to do (cf., Lewin, 1935).

Similar to attentional processes, an approach-avoidance co-occurrence might be associated with both positive *and* negative affective responses to social situations. This might be the case because – as is true for approach motivation – cheerfulness-related emotions are expected to follow the presence of and dejection-related emotions the absence of positive outcomes, whereas – as is true for avoidance motivation – agitation-related emotions follow the presence of and quiescence-related emotions the absence of negative outcomes. The emotional experience might fluctuate between positive and negative states resulting from an alternating attentional focus on signs of rejection and acceptance. As a result, the person might feel torn between elation and apprehension, between hope and fear.

Whereas we proposed that approach dominance is positively and avoidance dominance negatively related to subjective well-being, it is less clear how approach-avoidance co-occurrence relates to subjective well-being. Does approach-avoidance co-occurrence lead to negative well-being because of its conflicting characteristics? Or is approach motivation beneficial irrespective of other motivational tendencies, and does it therefore have an additive (i.e., compensatory) positive influence on subjective well-being?<sup>1</sup>

Research on affiliative tendencies (approach motivation) and sensitivity to rejection (avoidance motivation, Mehrabian, 1994) provides some evidence for the notion that approach-

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<sup>1</sup> This does not mean that the resulting tendency of approach and avoidance motivation is an algebraic sum of both. Rather, as literature on “negativity bias” (e.g., Ito, Larsen, Smith, & Cacioppo, 1998; Rozin & Royzman, 2001) shows, avoidance motivation might have “negativity dominance” (i.e., avoidance motivation might have a stronger negative impact on well-being than approach motivation a positive impact). This might shift the resulting well-being more to the negative pole.

avoidance co-occurrence might be more beneficial for subjective well-being than avoidance dominance. Affiliative tendency is defined by generalized positive social expectations and behaviors (corresponding with social approach motivation), sensitivity to rejection by generalized negative social expectations and behaviors (corresponding with social avoidance motivation). When assessed via self-report, approach and avoidance scales were found to be independent (correlations of .09 and .04, respectively, see Mehrabian, 1994) and their combinations were related to different outcomes. High affiliative tendency/low sensitivity to rejection correlated with popularity, low affiliative tendency/high sensitivity to rejection with loneliness, and high affiliative tendency/high sensitivity to rejection with dependency on others. Thus, dependency combines affiliative (approach) and insecure (avoidant) traits in equal degrees. Though dependent persons are afraid of and easily hurt by negative feedback from others and they tend to be reliant on familiar others, they are friendly and outgoing at the same time. This should be more beneficial for affiliation-need satisfaction and, in turn, for subjective well-being than the tendency to be unaffiliative of predominantly avoidant motivated individuals (Mehrabian, 1994).

Further evidence for this assumption comes from studies by Asendorpf on shyness (Asendorpf, 1989, 1990; Asendorpf & Wilpers, 1998). Asendorpf suggests that shyness is characterized by mixed feelings that reflect a motivational approach-avoidance conflict. Shy people are not only motivated to approach others but also motivated to avoid them. Avoidance describes social inhibition, that is, emotional inhibition of behavior that serves to initiate or to continue social interaction (Asendorpf, 1989). As an approach-avoidance conflict, shyness is accompanied by ambivalent emotions comprised of feelings of high embarrassment and fear, but also of high interest and moderate enjoyment that are, in sum, not experienced unpleasantly (Mosher & White, 1981). This emotional experience is more positive than the pure fear and anxious tenseness of predominantly avoidant-motivated individuals. However, there are differences between state and trait shyness. Though reports of happiness increase with state shyness, they are nega-

tively correlated with trait shyness (Asendorpf, 1989). Consequently, weak or moderate approach-avoidance motivation might be associated with relatively positive emotional experience. However, the stronger the approach-avoidance motivation is, the less beneficial it might be for subjective well-being, probably as a consequence of its highly ambivalent character.

In sum, approach-avoidance co-occurrence might lead to high sensitivity to positive and negative incentives in a given social situation that is associated with an ambivalent behavior tendency and the corresponding emotional experience. The motivation to socialize with others is not only accompanied by feelings of embarrassment and fear but also by interest and enjoyment that might be more beneficial for subjective well-being than the predominant avoidance tendency, which hinders individuals to affiliate and is associated with high negative affect in social situations. However, this benefit is the case only for weak or moderate approach-avoidance motivation. Strong trait approach-avoidance motivation might lead to highly ambivalent experiences and therefore to a decrease in subjective well-being.

### The Role of Social Motivation in the Transition into Adulthood

What role do social motives play in a successful transition into adulthood? As elaborated above, social motivation might be of particular importance during a transition phase (e.g., leaving home for college) when new social roles need to be taken over and new social relations have to be established (Arnett, 2000; Erikson, 1968; Gullotta et al., 1990; Havighurst, 1972; Lerner & Galambos, 1998). During such a transition, individual differences in social motives might become more important for social experience and behavior, as reliance on already established relationships with known parameters of how one is perceived by one's social partners and how well one is liked is no longer possible. Leaving the dependency and relative security of childhood and adolescence and having not yet entered the normative responsibilities of adulthood provides a variety of possible life directions. On the one hand, this leads to less constraints and a greater

scope of exploration possibilities than in any other period of the life course (Arnett, 2000). On the other hand, there are a number of developmental tasks such as establishing autonomy from the parental home, finding a romantic partner, building and maintaining friendships with peers, and progressing towards a job. Most of these tasks are social in nature and are connected to an increasing number of new social partners (see Lang, 2004). Thus, there are many new social situations in which action is required but not prescribed and where the interaction partners are not well known. Clearly, those young adults who have high social approach motives should fare much better when entering new social circles. They perceive their social environment generally as welcoming and positive, as an opportunity for affiliation and belonging. Avoidance motivated young adults, in contrast, should have a much harder time as they perceive their social environment as potentially hostile and filled with the risk of being rejected.

In fact, a number of studies show that young adults high in rejection sensitivity (social avoidance motivation), in contrast to those who expect acceptance from others, experience more troubled and dissatisfying relationships that end sooner (e.g., Downey et al., 1998; Simpson, Ickes, & Grich, 1999) and are more susceptible to loneliness, social anxiety, and depression following rejection (e.g., Ayduk et al., 2001; Baldwin, 1994; Kobak & Sceery, 1988; Shaver & Hazan, 1987). In other words, avoidant motivated individuals are likely to have turbulent and unstable relationships and/or suffer from loneliness and low subjective well-being. This pattern might be particularly detrimental for young adults when they experience disappointing social interactions as a consequence of their avoidant behavior, without the daily reassurance of their families as social interaction partners. Ultimately, these interactions lead to even higher sensitivity for signs of rejection, which may result in loneliness and a self-concept of being unworthy and undesirable. In contrast, approach motivated young adults who, as a consequence of their positive social behaviors, are also more likely to have positive social experiences, might maintain these relationships and anticipate rewarding relationships in the future (in terms of relational

schemata as cognitive structures representing regularities in patterns of interpersonal relatedness, see Baldwin, 1992). Accordingly, half of the participants in a recent study on emerging adulthood by Gottlieb and colleagues (Gottlieb, Still, & Newby-Clark, 2007) reported positive development in their relating to others. As approach motivation leads to higher social success, it is likely that the social strategies used by the emerging adults in the Gottlieb et al. study were approach-related strategies.

Not only in the social but also in the work domain, young adults are more successful if they are high in interpersonal connectedness and positive emotional responsiveness than if not. In a longitudinal study on work experiences and personality development in young adulthood by Roberts and colleagues (Roberts, Caspi, & Moffitt, 2003), self-reported positive emotionality and communion at age 18 were positively related to occupational attainment, work satisfaction, and financial security at age 26. Interestingly, positive emotionality/communion showed even stronger relations to work stimulation than achievement or power. Warm, sociable young adults get jobs where they can learn new things and share this knowledge with others. Roberts et al. concluded that socially apt young people achieve more in their early careers than others, strongly supporting the idea of approach motivation as a predictor not only of social but also work-related success. In the same study, 18-year olds high in negative emotionality/alienation, characterized by feelings of hopelessness, and feeling deceived and mistreated by others, were likely to experience a turbulent and unsuccessful transition into work. According to the authors, alienated adolescents might be trapped in a self-fulfilling vicious cycle. Although alienation is not identical to social avoidance motivation, feelings of anxiety, fear, and distrust are common features in both. Thus, the study by Roberts and colleges provides some support for the assumption that high social avoidance motivation might lead to less success in the work domain.

Another interesting domain is the transition from high school to college, because old relationships decline both in number and quality, and new relationships have to be developed (Asen-

dorpf & Wilpers, 1998; Shaver, Furman, & Buhrmester, 1985), which is a challenging task for many students as evidenced by research on loneliness. Cutrona (1982) found that two weeks after beginning of the school year, 75% of the new students had experienced at least occasional and 40% even moderate to severe loneliness. That the experience is due to the transition and not to college life in general can be inferred from the finding that most students (75%) were socially well adjusted by the end of the school year. This finding also implies, however, that a substantial number (25%) of the freshmen reported having experienced loneliness in the previous two weeks. Interestingly, they did not attribute their loneliness to lack of opportunities to meet people or to other people not trying to make friends. Instead, they thought that they were lonely because of their shyness, their fear of rejection, their own personality, and their lack of knowledge of how to initiate friendships. Regarding their personality characteristics, lonely students had lower affiliative tendencies and were more sensitive to rejection than others (measured by the Mehrabian scales, Mehrabian, 1970). Thus, they were predominantly avoidance motivated. Students who overcame their loneliness by the end of the year most often reported to have gradually made friends with the people around them. This result is in line with findings by Asendorpf and Wilpers (1998). In their study of social relations during the same transition period, they found that students high in shyness showed a much slower growth of their peer network than students low in shyness. However, shy students' peer network was still growing in their second year, while the social network of students low in shyness seemed to have reached a point of saturation and did not grow further.

As elaborated above, shyness can be characterized as an approach-avoidance conflict. One could speculate that the students in both samples reported above – the students who overcame their loneliness in Cutrona's study and the shy students in the study by Asendorpf and Wilpers – had co-occurrent approach and avoidance motivation. This might have led initially to problems finding social contacts due to their avoidance motivation. Due to their approach motiva-

tion, however, these students were also motivated to persevere in their efforts to socialize and make new friends. As it takes some time to make new friends, persistence in such efforts seems a key variable in overcoming loneliness in a new social context. In contrast, the students who remained lonely in Cutrona's study reported having changed or lowered their initial goals for desired relationships. Thus, they probably also lowered their efforts to socialize. This interpretation is also in line with our suggestion that, from a long-term perspective, approach-avoidance co-occurrence might have more positive consequences for social success and well-being than avoidance dominance.

Another argument for this suggestion is that young adults high on both approach and avoidance motivation are probably likely to show a less stable pattern of social behavior than the predominant approach-motivated and avoidance-motivated group. As approach-avoidance co-occurrence is associated with high sensitivity to *both* positive and negative social incentives, this kind of motivation should be more situationally dependent than a dominant approach or avoidance motivation. If the social situation is clearly positive or negative, individuals will experience it positively or negatively, respectively, independent of their social approach and avoidance motivation. In situations, however, where social stimuli are ambiguous or mixed, the predominant social motivation determines the general evaluation of the situation. In cases of approach-avoidance co-occurrence, however, no predominant motivation exists, resulting in an unstable general evaluation of the situation and, therefore, insecurity regarding the valence and interpretation of the situation. Also, it is likely that there is more variability across situations – while approach motivation might outweigh in some, avoidance motivation might be more dominant in others. As a consequence, approach-avoidance co-occurrence might lead to less stable relational schemata than either approach or avoidance predominance. On the one hand, then, approach-avoidance co-occurrence might be more beneficial in the transition into adulthood than avoidance predominance, because it is more malleable and offers more possibilities to experience



positive social interactions and relationships. Due to the instability across time and situations, however, approach-avoidant motivated individuals might be experienced by others as less predictable, making them less desirable social interaction partners. Consequently, approach-avoidance motivated individuals might elicit positive as well as negative reactions in their social partners. There is some support for this suggestion in the research on dependency and shyness that are both characterized by approach-avoidance co-occurrence (as described in previous sections). Dependent individuals were found to be seen by others as submissive but loving (Monaghan, Lubbers, & Struthers, 2004), that is, somewhat negative and positive at the same time. Similarly, although shyness as a separate characteristic is evaluated negatively, shy people are evaluated as neither socially desirable nor undesirable (Götttert & Asendorpf, 1989), because they hold negatively, neutrally, and positively evaluated characteristics (e.g., absence of aggression).

An additional factor for outcomes of approach-avoidance co-occurrence might be the strength of both motivations. If both motivations are at a middle level, individuals are likely to perceive positive and negative situational cues without being highly aroused and torn between strong ambivalent behavioral tendencies. Consequently, they can choose an appropriate behavior strategy adapted to the particular situation. The stronger the approach and avoidance motivation, however, the higher the resulting arousal and the stronger the ambivalence. Consequently, this might lead to fluctuating tendencies or to feeling unable to respond at all due to conflicting tendencies, leading to less successful outcomes. Mastering the challenges of the transition into young adulthood, then, might not only depend on the valence of the social motivation (approach – avoid), but, particularly in the case of co-occurring approach and avoidance motivation, also on the strength of their motivational tendencies.

In sum, social motivation is likely to play an important role in mastering the demands and challenges during the transition into adulthood. Social motivation does not only influence social

interactions but also success in the work domain. Regarding the development of social motivation, a predominant approach or avoidance motivation might become even more stable over the course of the transition, while approach-avoidance co-occurrence might lead to changes and instability. This instability is probably associated with lower subjective well-being than social approach dominance but higher than avoidance dominance, leaving the individual possibilities for positive experiences and affiliation-need satisfaction in social relationships and interactions. Moreover, approach-avoidance co-occurrence seems to lead not to immediate but to somewhat postponed social success, with slow but enduring growth of the peer network. In addition, the outcomes of approach-avoidance co-occurrence might be moderated by the strength of both tendencies.

### Conclusion and Future Directions

Returning to the example of the young woman entering her first class at college, we can now describe what happens to her cognitively, emotionally, and behaviorally. Assuming conflicting motivational tendencies, the new and unstructured social situation will activate both dispositional approach and avoidance tendencies and concomitant emotional experiences of hope and fear. Whereas approach tendencies lead to approach-related behavior (e.g., trying to speak to another student), ambivalent cues (e.g., pauses in the conversation) might be experienced as failure, leading to avoidant behavior (e.g., termination of the conversation). At the same time, the activated approach tendency counteracts this avoidant behavior, leading to contradicting cognitive, emotional, and behavioral experiences. The resulting overt behavior might be hesitation or approach, but the underlying processes are clearly different from a predominant avoidance or a predominant approach motivation.

In this paper, we outlined an attempt to specify processes of social approach and avoidance tendencies and their possible cognitive, emotional, and behavioral concomitants and conse-

quences of their role in the transition into young adulthood. Distinguishing social approach and avoidance motives as independent motivational systems that can either dominate or co-occur helps in describing and explaining different patterns of behavior and experience in the transition to adulthood. Previous research has mainly focused on approach and avoidance motivation separately. By considering both tendencies conjointly, we hope to establish a meaningful extension of our understanding of social motivation and offer new perspectives for future research, particularly for the transition into adulthood.

Future research should address basic cognitive, emotional, and behavioral concomitants of approach-avoidance predominance and co-occurrence as well as more systematically investigate the complex behavior and experience in social situations during the transition into adulthood. This requires a multi-methodological approach including laboratory and field studies. An important research question also concerns the individual differences in intraindividual developmental trajectories of social approach, social avoidance, and approach-avoidance co-occurrence.

PART II

THE INTERPLAY OF SOCIAL APPROACH AND AVOIDANCE MOTIVATION IN THE  
INTERPRETATION OF AND REACTION TO EMOTIONAL FACES

### Abstract

Two studies investigated the effects of the co-occurrence of social approach and avoidance motivation on the processing of and reactions to social stimuli. We hypothesized that co-occurring approach-avoidance motivation leads to ambivalent cognitions and behavior. In Study 1 ( $N = 78$ ), partially masked facial expressions had to be categorized as positive or negative. The interaction of approach *and* avoidance motivation predicted more negative but not fewer positive interpretations of ambiguous facial stimuli. This finding can be interpreted as a dampening of the positivity bias associated with approach motivation. Study 2 ( $N = 82$ ) investigated basic behavioral reactions to positive and negative social stimuli (faces expressing positive or negative emotions). Approach motivation predicted reaction times (RTs) to positive and avoidance motivation predicted RTs to negative facial expressions. RTs to both kinds of stimuli were lower when both motivations were high. Both studies indicate the ambivalent character of the co-occurring approach-avoidance motivation.

## Introduction

Since the classic studies of Harlow (1958) and the advent of attachment theory (e.g., Ainsworth, Bell, & Stayton, 1974; Bowlby, 1973) showing the importance of close social relationships for healthy development, belonging and social affiliation has been acknowledged as one of the most fundamental human motives (c.f., Baumeister & Leary, 1995; McAdams, 1992; McClelland, 1985; Mikulincer & Shaver, 2007). While some people want to belong to a social group and be liked by others (i.e., social approach motivation), for others the affiliation motivation is expressed primarily as the wish not to be excluded or rejected (i.e., social avoidance motivation). Social approach motivation refers to a dispositional orientation towards positive, hoped-for social incentives, whereas social avoidance motivation refers to an orientation away from negative, feared social incentives (McClelland, 1985).

Previous research has repeatedly found that general as well as social approach and avoidance motivation are largely independent of each other and show differential effects on emotion, cognition, and behavior (e.g., Dickson & MacLeod, 2004; Ebner et al., 2006; Förster et al., 2001; Freund, 2006; Gable, 2006; Gray, 1982; Higgins, 1997; Miller, 1944; Sokolowski et al., 2000). Hence, social approach and avoidance motivation can *co-occur* within a person (for a detailed discussion see Nikitin & Freund, 2008b). Little is known about the effects of co-occurring social approach and avoidance motivation (for exceptions see Asendorpf, 1989; Cheek & Buss, 1981; Mehrabian, 1994; Sokolowski & Heckhausen, 2006). The main issue of the current research is to examine what happens cognitively and behaviorally when a given situation activates a motivational orientation towards approach and, at the same time, towards avoidance.

An additional question we address here is based on the assumption that social approach and avoidance motivation differ depending on whether they are located at the level of non-conscious implicit motives or at the level of self-reported explicit motives (Elliot et al., 2006;

Sokolowski et al., 2000). Implicit and explicit motives are conceptualized to constitute two distinct motivational systems (e.g., Brunstein et al., 1998; McClelland et al., 1989). Little is known, however, about the differential effects of these two systems for information processing or basic behavioral tendencies. In the current studies, we examine if implicit and explicit approach and avoidance motivation differentially influence cognitive and behavioral processes.

### *Effects of Social Approach and Avoidance Motivation*

Approach and avoidance motivation constitute two different motivational systems (Carver et al., 2000; Gray, 1982, 1994): An appetitive system that is associated with processing positive environmental cues, and an aversive system that is associated with processing negative environmental cues (Gable et al., 2003). Approach and avoidance motivation have different cognitive, emotional, and behavioral consequences. Approach motivation is associated with the behavioral activation system (BAS), active coping styles, extraversion, and a positive temperament (Gable et al., 2003). It leads to greater attention to positive cues (Derryberry & Reed, 1994) and enhanced processing of positive emotional information (Gomez & Gomez, 2002). In the social domain, approach motivation is associated with a positively biased interpretation of neutral information (Strachman & Gable, 2006). In contrast, avoidance motivation is associated with behavioral inhibition system (BIS), avoidant passive coping styles, neuroticism, and a negative temperament (Gable et al., 2003). It leads to greater attention to negative cues (Derryberry & Reed, 1994) and enhanced processing of negative emotional information (Gomez & Gomez, 2002). In the social domain, avoidance motivation is associated with better memory for negative information, a negatively biased interpretation of ambiguous social cues, and a more negative evaluation of social actors (Pietrzak et al., 2005; Strachman & Gable, 2006).

How social approach and avoidance motivation *interact* in processing social stimuli?<sup>2</sup>

In other words, how do people process and react to social stimuli if they are highly approach *and* avoidance motivated? We hypothesize that positive and negative social cues activate *both* motivational systems with related cognitions, emotions, and behavioral tendencies. Due to the opposing character of approach and avoidance motivation (Lewin, 1935), we expect that a simultaneous activation leads to cognitive as well as behavioral *ambivalence*. If both motivations are activated, a dilemma results of how to interpret social situational cues. Some of the cues might be interpreted positively and some negatively, leading to an ambivalent experience of the social situation. At the same time, one has to respond to all the relevant social cues pointing in different behavioral directions, which might lead to behavioral ambivalence. Together, this ambivalent experience and behavior might be more intense than the stable (positive or negative) pattern of predominant social approach and avoidance motivation, which, in turn, might intensify the main effects of social approach and avoidance motivation. Thus, if both motivations are high, we expect not simply an additive effect of approach and avoidance motivation but an interaction effect in terms of an amplification of the main effects.

### *Implicit and Explicit Motivation*

Social approach and avoidance motivation can be implicit or explicit (Elliot et al., 2006; Sokolowski et al., 2000). Implicit motives can be conceptualized as non-conscious affective preferences for a broadly defined class of incentives (see Brunstein et al., 1998; Koestner & McClelland, 1992; McAdams, 1992; McClelland et al., 1989). In general, implicit motives are

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<sup>2</sup> Because the two motivations are independent, all four combinations of high and low approach and avoidance motivation are possible. If approach motivation is high and avoidance motivation is low, we expect a predominant impact of approach motivation and therefore basically the same consequences as discussed above in terms of high approach motivation. Similarly, if approach motivation is low and avoidance motivation is high, we expect a predominant impact of avoidance motivation and therefore the same consequences as discussed in terms of high avoidance motivation. If both motivations are low, we expect generally low social motivation and therefore little sensitivity to social as compared to other stimuli.



not consciously represented, and people are believed to have no access to their implicit motives. Implicit motives predict spontaneous behavioral trends over time and are operative in unstructured and ambiguous situations. In contrast, explicit motives are self-related beliefs and constitute part of a person's self-concept that can be verbalized. Explicit motives indicate the view people have of their own motives that they consciously attribute to their behavior and emotional experience. Like other self-concepts (Bargh, 1990), explicit motives can be activated automatically by situational cues. Once activated, they predict behavior best when the self-concept and the situation show a high degree of correspondence (McClelland et al., 1989). For example, a smiling face matches the explicit approach motive, whereas an angry face matches the avoidance motive.

In which situations are implicit and explicit motivation activated? Implicit motives might be activated without conscious awareness or intention by any social cues regardless of their relevance for oneself. This assumption forms the basis of the Thematic Apperception Test (TAT, Atkinson et al., 1954), the instrument used most often for the assessment of implicit motives. In the TAT, participants write stories to pictures of ambiguous situations. Relevant cues in the picture are thought to activate the corresponding implicit motive and consequently affect the interpretation of the situation without the participant being aware that his or her implicit motive drives the interpretation of the respective picture. In contrast, explicit motives are believed to be activated in situations that clearly refer to one's self. For instance, Brunstein and Maier (2005) found that explicit motivation was involved in the prediction of motivational states arising from ego incentives, whereas implicit motivation was involved in the prediction of motivational states in task-focused setting. Hence, if a situation contains cues that correspond to a particular implicit motive but, at the same time, does not involve one's self, implicit - but not explicit - motivation should be activated. In a well-defined situation that matches the person's self, however, explicit

motivation should *overwrite* the impact of implicit motivation on cognition and behavior (for a similar discussion see Strack & Deutsch, 2004).

In context of the present studies, we expected that implicit social approach and avoidance motivation plays a stronger role for the interpretation of ambiguous facial expressions because such a task contains motivationally relevant cues (i.e., social stimuli) but does not involve one's self (similar to a TAT task). In contrast, explicit social motivation should play a stronger role for reactions to unambiguous social stimuli such as clearly positive or negative facial expressions. Such a task provides motivationally relevant cues and, at the same time, involves one's self (i.e., approaching positive and avoiding negative cues).

*Social Approach and Avoidance Motivation and the Interpretation of and Reactions to  
Emotional Faces*

In the current research, we examined how social approach and avoidance motivation interact in the interpretation of and reacting to emotional faces. We used facial expressions as stimulus material because processing of faces is fundamental for experience and behavior in social situations (e.g., Chartrand & Bargh, 1999). Happy faces stand for a positive emotional state and, therefore, signal preparedness to affiliate. In contrast, angry faces stand for a negative emotional state that can be directed against others (Ekman, 1992) and, therefore, can be interpreted as signaling interpersonal rejection. Because the main concern of social approach motivation is positive social exchange, social approach motivation should be predominantly associated with an enhanced sensitivity to happy faces. In contrast, the main concern of social avoidance motivation is avoidance of rejection. Therefore, it should be predominantly associated with an enhanced sensitivity to angry faces. Co-occurring approach and avoidance motivation might be concerned with both approaching positive social interactions and avoiding interpersonal rejection. Hence, it should be associated with an enhanced sensitivity to happy *and* angry faces.

*Interpretation of Ambiguous Social Stimuli*

Social approach and avoidance motivation has been repeatedly found to be associated with the interpretation of ambiguous stimuli in a more positive or a more negative way, respectively. For instance, Strachman and Gable (2006, Study 1) found that participants high in social avoidance motivation interpreted an ambiguous essay (including positive, negative, and neutral social events) in a more negative way than participants low in social avoidance motivation. In contrast, participants high in social approach motivation interpreted the neutral information in the essay in a positive way. Additionally, when participants high in dispositional avoidance motivation were given a social avoidance goal for an interaction with an unknown confederate, they expressed more dislike for the confederate even though they received only a mundane description (Strachman & Gable, 2006, Study 2). In both studies, social avoidance motivation played a stronger role for the interpretations than social approach motivation. In another study, Downey and Feldman (1996) found that people high in social avoidance motivation reported heightened feelings of rejection in response to an ambiguous information (Study 2). Finally, Gomez and Gomez (2002) found that a general approach tendency (as measured by the BAS) was associated with more positivity in the completion of word fragments. A general avoidance tendency (as measured by the BIS) was related to more negativity in the word completion.

Based on this literature, we expected that social approach motivation should be positively associated with a positivity bias and social avoidance motivation with a negativity bias in interpretation of ambiguous emotional faces. An increase in both motivations should hence lead to an ambivalent processing of ambiguous facial expressions. This ambivalence might be reflected in a high indecision of how to interpret the emotional faces, and might therefore amplify the main effects of approach and avoidance motivation. This hypothesis was tested in Study 1.

*Reactions to Clearly Positive and Negative Social Stimuli*

Study 2 examined approach and avoidance reactions to clearly positive and negative facial expressions. Previous research has found that individuals react faster with approach behavior to positive stimuli and with avoidance behavior to negative stimuli (e.g., Chen & Bargh, 1999). Vice versa, approach movements facilitate processing of positive affective concepts and avoidance movements processing of negative affective concepts (Neumann & Strack, 2000). Moreover, there is evidence for congruence between motivation, movement, and stimuli. In a study by Förster and colleagues (Förster et al., 1998, Study 3), approach motivation was associated with stronger approach movement if pursuing positive end states (i.e., gains), whereas avoidance motivation was associated with stronger avoidance movement if avoiding negative end states (i.e., losses), especially when participants moved closer to goal attainment. In another study, Puca and colleagues (Puca, Rinkenauer, & Breidenstein, 2006) found that participants high in avoidance motivation moved their arms with a more strength in order to withdraw from a negative stimuli. Regarding social avoidance motivation, there is evidence for high sensitivity to negative social cues. In a study by Downey and colleagues (Downey et al., 2004), individuals high in social avoidance motivation (rejection sensitivity) showed a potentiation of the startle reflex (which is an indicator for high negative arousal) if they were viewing rejection images but not if they were viewing images of acceptance, noninterpersonal positivity, or noninterpersonal negativity. Thus, they responded more intensely to stimuli that could communicate interpersonal rejection. This intense response might lead to strong avoidance reaction as found by Puca and colleagues. Based on these findings, we expected in the current study a congruence between the valence of the facial expression (happy vs. angry), the arm-movement (approach vs. avoidance), and the habitual social motivation (approach vs. avoidance motivation). Social approach motivation should be associated with faster approach reactions to happy faces, social avoidance motivation with faster avoidance reactions to angry faces. An interaction of approach and avoidance motivation is ex-

pected to lead to a high sensitivity to both positive *and* negative social stimuli. This, in turn, should be related to a high preparedness to react to positive and negative facial expressions (as indexed by fast reaction times).

### *The Role of Implicit and Explicit Social Motivation*

The pattern of results regarding the impact of implicit and explicit approach and avoidance motivation on cognition and behavior is rather inconsistent. Moreover, most studies did not differentiate between implicit and explicit motivation. Some studies on the interpretation of ambiguous stimuli assessed approach and avoidance motivation implicitly (e.g., Strachman & Gable, 2006, Study 2) and explicitly (e.g., Downey & Feldman, 1996; Gomez & Gomez, 2002; Strachman & Gable, 2006, Study 1). The same is true for the investigation of reactions to positive and negative stimuli: implicit measurements were used in some studies (e.g., Puca et al., 2006) and explicit measurements in other (e.g., Downey et al., 2004). However, based on the theoretical considerations discussed above, we expected that implicit and explicit social motivation might be activated in different situations depending on the presence of motivationally relevant cues and/or involvement of one's self. More specifically, we predicted that implicit approach and avoidance motivation would be associated with the interpretation of facial expressions in Study 1 because the matter of Study 1 was a simple cognitive task (classifying facial expressions as positive or negative) without any relation to the person that completed it. In contrast, Study 2 involved participants self in asking them to move towards happy and away from angry faces (i.e. approaching and avoidang them). Hence, we predicted that in Study 2 explicit approach and avoidance motivation will predict the reactions to the facial expressions.

### Study 1: Interpretation of Ambiguous Emotional Faces

Study 1 examined the influence of habitual social approach and avoidance motivation on the classification as positive or negative of ambiguous, partially masked happy and angry faces.

The amount of false positive classifications (i.e., angry faces classified as positive) can be interpreted as a positivity bias, i.e., a tendency to interpret ambiguous social stimuli in a positive way. The amount of false negative classifications (i.e., happy faces classified as negative) can be interpreted as a negativity bias, i.e., a tendency to interpret ambiguous social stimuli in a negative way.<sup>3</sup> We analyzed the data using hierarchical regression analyses for (implicit and explicit) social approach and avoidance motivation in the first step and their interaction in the second step, predicting false positive and false negative classifications of ambiguous facial expressions.

### *Method*

#### *Participants*

Participants were recruited via newspaper advertisements, flyers, and advertisements in students' mailing lists. The sample consisted of 78 volunteer students and other adults (79% females, age  $M = 25.08$ ,  $SD = 5.84$ , range 19 – 49 years). The majority of the participants (75.6%) held Swiss citizenship, 15.6 % were from other German-speaking countries, and 8.8% from other countries. About half of the participants (48.7%) reported to be in a long-term relationship, 5.1% were married, 2.6% divorced, and 43.6% single. A small group (10.3%) had one or two children. Most of the participants were students (79.5%; 2.6% were in an apprenticeship). Approximately half of the participants (44.9 %) were employed (42.9% of the students) with the majority of them (83.9%) working part-time.

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<sup>3</sup> We did not analyze the correct classifications (i.e., positive interpretations of happy and negative interpretations of angry faces) because we could not distinguish if the correct classification was caused by an interpretation bias or by recognition of the actual facial expression.

We ran the study in laboratories of the University of Zurich. All participants gave written informed consent for participation. After participation, they were debriefed and either paid 20 CHF (approximately 19 US \$) or received extra course credit.

### *Stimuli and Procedure*

Facial stimuli were chosen from the Lifespan Database of Adult Emotional Facial Stimuli (Ebner, Riediger, & Lindenberger, 2007; Lindenberger, Ebner, & Riediger, 2007). Colored pictures of 50 models were selected (12 young males, 13 young females, 13 middle-aged males, and 12 middle-aged females), each clearly expressing either happiness or anger. Pictures were cut vertically from hairline to chin and horizontally at the cheekbones. Consequently, the picture length and width varied from 3.95" to 4.70". For different levels of ambiguity, each picture was partially masked via Adobe Photoshop 7.0 ("grain" command) in five different degrees, ranging from very ambiguous (strongly masked) to very clear (weakly masked). Figure 1 shows an example of masking of a negative female facial expression. We used the program DirectRT (Jarvis, 2004) for stimulus presentation, timing, and data collection. Stimuli were presented on a 17" computer screen. Pictures were displayed in the center of the screen.



*Figure 1.* Part II, Study 1. Stimulus material: Example of masking for a negative female facial expression.

Participants were tested alone or in groups up to five in separated cubicles. An experimental trial started with a blank screen presented for 100 ms and was followed by a mask of "x" in the size of the facial stimulus for 1000 ms. Next, a picture of facial expression was shown.

Participants were instructed to identify which of the two facial expressions (positive or negative) was presented and then to press “p” button for positive and “n” button for negative facial expressions. If they were not sure, they should guess. There was no time restriction for the response.

The classification-task consisted of three blocks with 160, 160, and 180 trials each. To activate social motivation, before each block, three different pictures of social situations were presented and participants were asked to write a short story to each of them. The pictures showed 1) four people, driving in a car, 2) three people sitting on a river bank and talking, and 3) three people standing on the street, two of them holding hands. Pictures were blurred, so that facial expressions could not be identified. Participants were given three minutes to write a short story on a separate sheet for each picture. The instruction was to write a story that could go with the picture. Participants should answer following questions: “What is happening at the moment?” “Who are these people?” “What happened before?” “What do these people think and feel?” “What intentions do they have?” and “What will happen next?” After three minutes, the picture disappeared from the screen and participants were asked to continue with the experiment.

The session started with a presentation of the first picture of a social situation, followed by three blocks of 160, 160, and 180 facial-expressions trials (with 15 test trials at the beginning of the first block), resulting in a total of 500 trials (50 faces x 2 facial expressions x 5 degrees of masking). Each facial expression was presented in all five degrees of masking. The masked faces appeared successively from very ambiguous to very clear. The presentation of different facial expressions was randomized. In breaks between blocks, the second and the third picture of social situations were presented. Finally, participants completed an on-line questionnaire assessing their social approach and avoidance motivation.

#### *Assessment of Social Implicit and Explicit Approach and Avoidance Motivation*

We used the Multi-Motive-Grid (MMG; Sokolowski et al., 2000) to assess implicit social approach and avoidance motivation. The Multi-Motive-Grid is a semi-projective instrument that



should primarily assess non-conscious, implicit motives (see Kehr, 2004). It consists of 14 pictures of different social situations, each accompanied by a set of 4 to 10 statements. Participants are asked to endorse those statements that, in their view, match best a given picture. Motives scores are calculated by summing across pictures number of endorsed items reflecting a certain motive (affiliation, achievement, power). We used only the affiliation-motive subscale. In this subscale, motive scores can range from 0 to 12 for (a) approach and (b) avoidance motivation. Sample statements for approach motivation statements are “Feeling good about meeting other people” and “Hoping to get in touch with other people”. Sample statements for avoidance motivation are “Being afraid of being rejected by others” and “Being afraid of being boring to others.” Previous studies repeatedly demonstrated excellent retest-reliability, internal consistency, and validity of both scales (Gable et al., 2003; Kehr, 2004; Langens & Schmalt, 2002; Sokolowski et al., 2000). The internal-consistency reliabilities in the current study were for approach motivation Cronbach’s alpha  $\alpha = .62$  (mean score of the scale  $M = 5.97$ ,  $SD = 2.11$ ) and for the avoidance motivation  $\alpha = .63$  ( $M = 5.68$ ,  $SD = 2.43$ ). As expected, social approach and avoidance motivation were not correlated ( $r = .03$ ,  $p = .82$ ).

We used the Rejection Sensitivity and Affiliation Tendency Scales (Mehrabian, 1970; German version in Sokolowski, 1986) to assess explicit social approach and avoidance motivation. These scales consist of 47 self-descriptive items to social behavior and experience. The Affiliation Tendency subscale (23 items) was used to measure social approach motivation, and the Rejection Sensitivity subscale (24 items) was used to measure social avoidance motivation. Responses were given on a Likert Scale ranged from 0 (strongly disagree) to 6 (strongly agree). Items of the approach-motivation scale reflect preference for friends and attachments versus independence of others, preference for group versus individual activities, positive feelings associated with the presence of many people, and preference for expressing affection toward people. Items of the avoidance-motivation scale reflect preference for behaviors or situations which

minimize negative feedback from others, preference for being spontaneous and expressing desires and feelings (reversed), preference for warm and accepting people, inability to refuse favors, concern about being liked, and negative feelings associated with the presence of many people. A sample item for approach motivation is “I like to make as many friends as I can”, a sample item for avoidance motivation is “I prefer not to go to a place if I know that someone of the people who will be there don’t like me.” Previous studies demonstrated excellent retest-reliability, internal consistency, and validity of the Mehrabian’s scales (Mehrabian, 1970, 1994). Reliability of the Mehrabian’s approach-motivation scale in the current study was  $\alpha = .74$  ( $M = 3.38$ ,  $SD = 0.56$ ) and of the avoidance-motivation scale  $\alpha = .65$  ( $M = 3.09$ ,  $SD = 0.63$ ). As expected, social approach and avoidance motivation were uncorrelated ( $r = .04$ ,  $p = .72$ ).

Implicit and explicit motivation were uncorrelated (the correlations of the implicit and explicit approach and avoidance motivation were between  $r = -.09$  and  $.13$ , all  $p > .27$ ), which suggests the hypothesized independence of the two motivational systems.

### *Preliminary Data Analyses*

From a total of 39’000 classifications, 38.9% were classified correctly as negative (i.e., angry faces classified as negative), 42.9% were classified correctly as positive (i.e., happy faces classified as positive), 7.1% were classified falsely as negative, and 11.1% were classified falsely as positive. Figure 2 shows that correct positive and correct negative classifications of facial expressions significantly increased and false positive and false negative classifications significantly decreased with decreasing masking,  $\chi^2(4, N = 39\ 000) = 5\ 144.61$ ,  $p < .001$ . For further data analyses, we used only the ambiguous stimuli (the first two degrees of masking, in Figure 2 the two bars left,  $n = 15\ 600$ ) because our hypotheses concerned the bias in interpreting ambiguous social stimuli. Regarding the distribution of positive and negative classifications, we found more positive than negative classifications of the ambiguous stimuli ( $n_{\text{Positive}} = 8\ 523$ ,

$n_{\text{Negative}} = 7'077$ ,  $p < .001$ ), which means that participants generally tended to interpret ambiguous facial expressions more in a positive way.

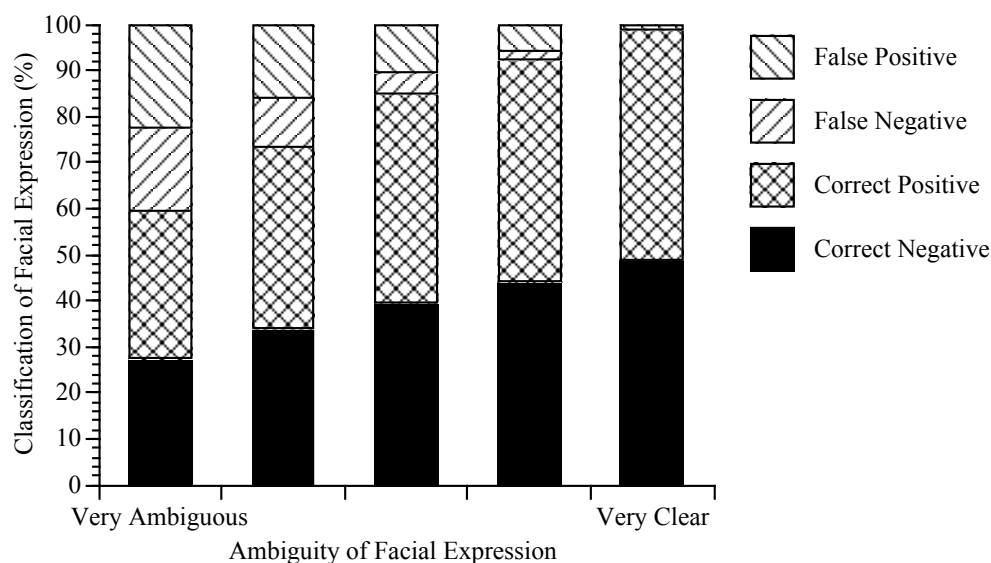


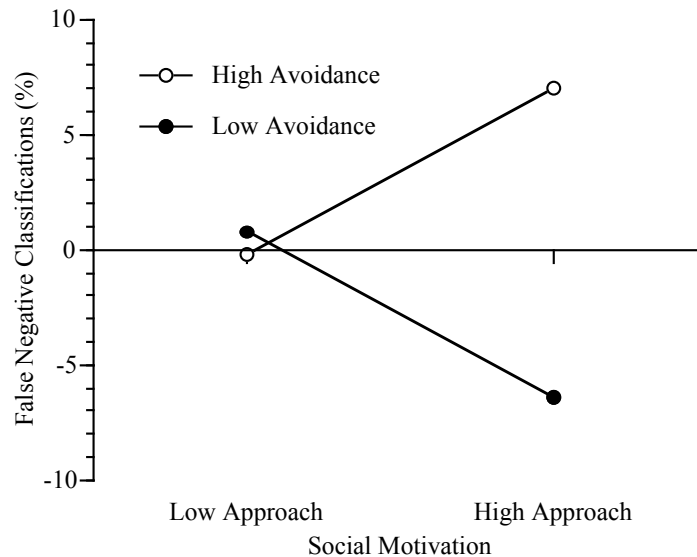
Figure 2. Part II, Study 1. Proportion of correct and false classification of positive and negative facial expressions depending on the ambiguity of the stimuli.

### Results and Discussion

We ran hierarchical regression analyses with the main-effects of (implicit and explicit) social approach and avoidance motivation in the first step and the interaction of approach x avoidance motivation in the second step, predicting false positive and false negative classifications of the ambiguous facial expressions, respectively. As hypothesized, explicit approach and avoidance motivation predicted neither false positive ( $R^2 = .02$ ,  $p = .53$  for the first step;  $\Delta R^2 = .01$ ,  $p = .42$  for the second step), nor false negative classifications ( $R^2 = .01$ ,  $p = .78$ ;  $\Delta R^2 = .00$ ,  $p = .74$ ).

Regarding implicit social motivation, false positive classifications decreased and false negative classifications increased with increasing avoidance motivation (see Table 3). More important in the present context, approach and avoidance motivation interacted in predicting false negative classifications (see Figure 3). False negative classifications decreased with increasing

approach motivation only if avoidance motivation was low. If avoidance motivation was high, false negative classifications increased with increasing approach motivation.



*Figure 3.* Part II, Study 2. Social approach and avoidance motivation predicting false negative classification of ambiguous faces computed for values 1 *SD* below (Low) and 1 *SD* above (High) the mean of the approach and avoidance score. Zero score corresponds to the sample mean (28.9%) of false negative classifications of happy faces in the two ambiguous conditions.

Results of Study 1 supported our hypothesis that implicit (but not explicit) social approach and avoidance motivation interact in predicting classifications of ambiguous social stimuli. As expected, avoidance motivation was associated with an increase of false negative classifications and this was especially true for the combination of high approach *and* high avoidance motivation. High approach motivation did not lead to an attenuation of the negative consequences of avoidance motivation as one could expect if consequences of both motivations were just averaged.

Table 3. *Part II, Study 1. Summary of Hierarchical Regression Analyses for Social Approach and Avoidance Motivation Predicting False Positive and False Negative Classifications of Ambiguous Facial Expressions (N = 78)*

Variable	False Positive Classifications			False Negative Classifications		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Step 1						
Approach	.95	1.39	.08	-.49	1.30	-.04
Avoidance	-2.75	1.39	-.22 <sup>†</sup>	3.27	1.30	.28 <sup>*</sup>
Step 2						
Approach	.71	1.47	.06	.39	1.34	.03
Avoidance	-2.82	1.41	-.23 <sup>*</sup>	3.52	1.28	.30 <sup>**</sup>
Approach x Avoidance	-.88	1.64	-.06	3.22	1.49	.25 <sup>*</sup>

Note. False Positive Classifications:  $R^2 = .05$  ( $p = .12$ ) for Step 1;  $\Delta R^2 = .00$  ( $p = .59$ ) for Step 2. False Negative Classifications:  $R^2 = .08$  ( $p = .05$ ) for Step 1;  $\Delta R^2 = .06$  ( $p = .03$ ) for Step 2.

<sup>†</sup> $p < .10$ . <sup>\*</sup> $p < .05$ . <sup>\*\*</sup> $p < .01$ .

Contrary to our prediction, social approach motivation did not predict an increase in false positive classifications. In contrast, social avoidance motivation predicted a *decrease* in false positive classifications. As mentioned in the preliminary data analyses, we found more positive than negative classifications for the whole sample, which indicates a general positivity bias in interpreting facial expressions. This positivity bias is in line with findings that most people have unrealistically positive view of the self, illusions of control and mastery, and unrealistic optimism about the future (see Taylor & Brown, 1988, for a summary) as well as positively biased affective judgments of pictorial stimuli and impressions of neutral, unknown, or ambiguous human and nonhuman stimuli (Cacioppo, Gardner, & Berntson, 1999). This suggests that people generally tend to a positive view of themselves and the world. This might be the reason why we did not find an increase of positive interpretations with increasing approach motivation. There is probably a general tendency to interpret faces in a positive way that is decreased by avoidance motivation but not additionally enhanced by approach motivation. This could also explain the stronger impact of avoidance as compared to approach motivation for the interpretation of social stimuli as it has been found previously (Strachman & Gable, 2006). Importantly, high approach

and high avoidance motivation did not lead to an additional decrease of the positivity bias beyond the main effect of avoidance motivation. These results suggest that while avoidance motivation has primarily negative consequences for the interpretations of ambiguous social stimuli (increase of a negativity and decrease of a positivity bias), approach-avoidance co-occurrence has an ambivalent consequence for the interpretations (increase of a negativity but no decrease of a positivity bias).

In Study 1, we tested the hypothesis that implicit (but not explicit) social approach and avoidance motivation interact with each other in their effect on the interpretation of ambiguous social stimuli. In Study 2, we were interested in the basic behavioral effects of social approach and avoidance motivation and their interaction with each other when reacting to unambiguously positive and negative facial stimuli. As discussed above, we expected that social approach motivation predicts reaction times to positive stimuli and social avoidance motivation reactions to negative stimuli. When both motivations are high, we expected them to lead to a kind of hypersensitivity and hence faster reactions to both positive and negative stimuli. We expected explicit (but not implicit) motivation to be relevant in this context because the task contained clearly motivationally relevant cues and at the same time was relevant for participants' self (in involving the participant in approaching positive and avoiding negative cues).

### Study 2: Reaction to Positive and Negative Emotional Faces

Study 2 examined how habitual social approach and avoidance motivation predicted approach reactions to clear positive (happy) and avoidance reactions to clear negative (angry) facial expressions as measured by reaction times for arm movements. We analyzed the data using hierarchical regression analyses for (implicit and explicit) social approach and avoidance motivation in the first step and their interaction in the second step, predicting RTs to happy and angry faces.

## *Method*

### *Participants*

Participants were recruited via newspaper advertisements, flyers, and advertisements in students' mailing lists. The sample consisted of 82 students and other adults (73% females, age  $M = 26.77$ ,  $SD = 6.29$ , range 18 – 44 years). The majority of the participants (65.9%) held Swiss citizenship, 21.9 % were from other German-speaking and 12.2% from other countries. Approximately half of the participants (48.8%) were single, 41.5% reported to be in a long-term relationship, 8.5% were married, and one participant was divorced. A small group (6.1%) had one or two children. Most of the participants (70.7%) were students or apprentices (4.8%). Approximately half of the participants (47.0 %) – including 50.0% of the students – worked, the majority of them (67.5%) part-time.

We ran the study in laboratories of the University of Zurich. All participants gave written informed consent for participation. After participation, they were debriefed and either paid 20 CHF (approximately 19 US \$) or received an extra course credit.

### *Stimuli and Procedure*

Facial stimuli were chosen from the same database as in Study 1 (Ebner et al., 2007; Lindenberger et al., 2007). We selected colored pictures of 110 models (27 young males, 28 young females, 28 middle-aged males, and 27 middle-aged females), each clearly expressing either happiness or anger. Pictures were again cut vertically from hairline to chin and horizontally at the cheekbones. For the highest possible uniformity, all pictures were gray scaled via Adobe Photoshop 7.0. Figure 4 shows examples of a positive and a negative female facial expression. Stimuli were presented on a 17" computer screen.



*Figure 4.* Part II, Study 2. Stimulus material: Examples of a positive and a negative female facial expression.

Participants were tested alone or in groups up to three in separated cubicles. The procedure for each trial is shown in Figure 5. An experimental trial started with a blank screen presented for 100 ms and was followed by a presentation of a small white manikin on gray background in the middle of the screen. Participants were told that the manikin represents themselves and therefore it had a superscription “I” (in German “Ich”) over the head. After another 500 ms, randomly left or right from the manikin, a picture of a happy or an angry face appeared. The task was to move the manikin as fast as possible towards happy faces (i.e., to the left if the happy face appeared on the left side and to the right if it appeared on the right side) and away from angry faces (i.e., to the left if the angry face appeared on the right side and to the right if it appeared on the left side). For the movements, participants used a joystick that was fixated on a board in the middle of the table. The manikin moved synchronously with the joystick movement (i.e., towards happy and away from angry faces). If a participant moved the joystick in wrong direction, the manikin did not move. Instead, an instruction appeared “Please move the joystick in the right direction.” The session continued first when the joystick was moved correctly. A total of 220 trials were run (110 faces x 2 facial expressions). Half of the happy faces appeared on the left side, half of them on the right side. The same was true for angry faces. The order of the presentation of the stimuli and their placement were randomized.

In order to control for individual differences in reaction times (RTs), 100 trials with neutral instead of social stimuli were added. These trials were run at the beginning of the session.



Each trial started with a blank screen for 100 ms and was followed by a random presentation of one of the two characters “L” and “R”, standing for “left” and “right” (in German “links” and “rechts”), respectively. The character was presented in the middle of the screen. Participants were asked to move the joystick as fast as possible in the respective direction. Because we were interested in participants’ reactions to social stimuli but not in their general reaction times, we subtracted the individual reaction times to neutral stimuli from those to social stimuli. The resulting difference was interpreted as the time that is needed to identify the facial expression and to prepare the reaction to it.

To activate social motivation, we used the same task as in Study 1. Three different pictures of social situations were presented at the beginning of each block and participants were asked to write a short story to each of them. The session started with a presentation of the first picture of a social situation. Next, the block of neutral stimuli was run, with 8 test trials at the beginning, followed by 100 experimental trials. After this initial block, three blocks of 70, 70, and 80 trials with facial expressions were run (with 8 test trials at the beginning of the first block). Finally, participants completed an on-line questionnaire assessing their social approach and avoidance motivation.

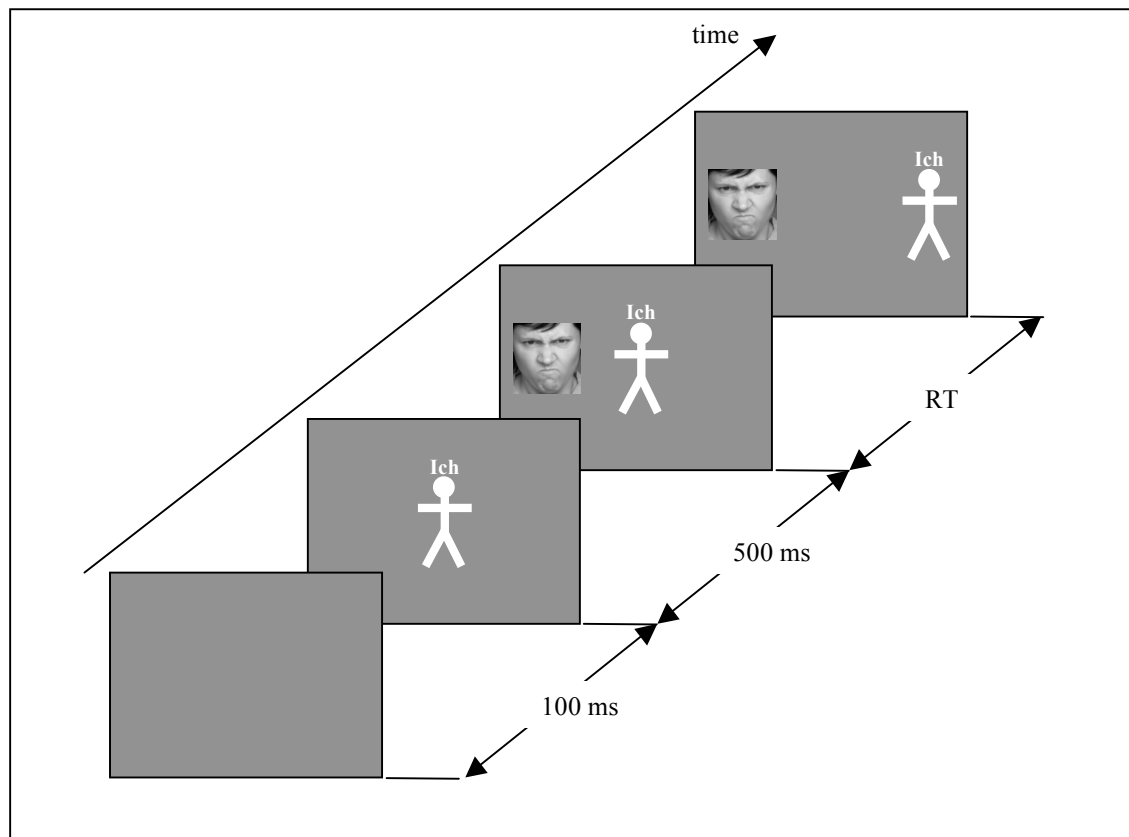


Figure 5. Part II, Study 2. Schematic of one trial of the avoidance reaction to an angry face. “Ich” = “I”.

#### *Assessment of Social Implicit and Explicit Approach and Avoidance Motivation*

We used the same assessment instruments as in Study 1. The MMG assessed explicit and the Mehrabian Scales explicit social approach and avoidance motivation. The internal-consistency reliabilities were  $\alpha = .50$  for implicit approach motivation ( $M = 6.05$ ,  $SD = 1.88$ ),  $\alpha = .72$  for implicit avoidance motivation ( $M = 4.98$ ,  $SD = 2.72$ ),  $\alpha = .51$  for explicit approach motivation ( $M = 3.68$ ,  $SD = 0.44$ ), and  $\alpha = .70$  for explicit avoidance motivation ( $M = 3.02$ ,  $SD = 0.58$ ). As expected, approach and avoidance motivation were uncorrelated ( $r = .02$ ,  $p = .86$  for implicit and  $r = -.14$ ,  $p = .22$  for explicit motivation). As in Study 1, implicit and explicit motivation were uncorrelated (the correlations of implicit and explicit approach and avoidance motivation were between  $r = -.17$  and  $.05$ , all  $p > .12$ ).

### *Preliminary Data Analyses*

From a total of 26'240 trials, the proportion of incorrect responses was 4.9%. Response latencies of these trials were excluded from the analyses. Further, 4.4% of the responses were more than twice the standard deviation above or below each participant's mean response latency and were excluded from the analyses. There were 23'741 trials remaining in the data file. All analyses were run with log-transformed RTs to correct for skewness of the RT distribution.

The average RTs to angry faces were  $M = 656.32$  ms ( $SD = 126.69$  ms), to happy faces  $M = 624.42$  ms ( $SD = 136.06$  ms), to the left side  $M = 573.39$  ms ( $SD = 155.34$  ms), and to the right side  $M = 567.34$  ms ( $SD = 155.01$  ms). Although movements to the right were significantly faster than those to the left,  $F(1, 16\ 163) = 22.78$ ,  $p < .001$  ( $\eta^2 = .001$ ), and movements to happy faces significantly faster than to angry faces  $F(1, 16\ 163) = 302.72$ ,  $p < .001$  ( $\eta^2 = .02$ ), there were no interaction effect of movement direction x facial expression,  $F(1, 16\ 173) = 1.12$ ,  $p = .29$  ( $\eta^2 = .00$ ). Regarding RTs to neutral and facial stimuli, participants reacted significantly faster to neutral ( $M = 421.29$  ms,  $SD = 73.60$  ms) than to facial stimuli ( $M = 640.18$  ms,  $SD = 132.47$  ms),  $t(23\ 729) = 152.71$ ,  $p < .001$  (two-tailed),  $d = .74$ . As mentioned earlier, we subtracted the RTs of neutral stimuli from those to facial stimuli and ran all further analysis with these RT-differences.

### *Results and Discussion*

We ran hierarchical regression analyses, with the main-effects of (implicit and explicit) social approach and avoidance motivation in the first step and the interaction of approach x avoidance motivation in the second step, predicting RTs to happy and angry faces. As expected, implicit approach and avoidance motivation predicted neither RTs to happy faces ( $R^2 = .00$ ,  $p = .93$  for the first step;  $\Delta R^2 = .01$ ,  $p = .35$  for the second step), nor RTs to angry faces ( $R^2 = .00$ ,  $p = .99$ ;  $\Delta R^2 = .02$ ,  $p = .26$ ).

As hypothesized, explicit approach motivation predicted faster RTs to happy and explicit avoidance motivation to angry faces (see Table 4). Approach motivation was associated with faster reactions to happy faces. Contrary to our hypothesis, avoidance motivation was associated with slower reactions to angry faces. Approach and avoidance motivation interacted in predicting RTs to happy and angry faces. As shown in Figure 6, RTs to both happy and angry faces decreased with increasing approach and avoidance motivation.

*Table 4. Part II, Study 2. Summary of Hierarchical Regression Analyses for Social Approach and Avoidance Motivation Predicting RTs to Happy and Angry Faces (N = 82)*

Variable	Happy Faces			Angry Faces		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Step 1						
Approach	-.02	.01	-.20 <sup>†</sup>	-.01	.01	-.06
Avoidance	.00	.01	.12	.02	.01	.20 <sup>†</sup>
Step 2						
Approach	-.02	.01	-.17	-.00	.01	-.03
Avoidance	.01	.01	.13	.02	.01	.20 <sup>†</sup>
Approach x Avoidance	-.02	.01	-.22 <sup>*</sup>	-.02	.01	-.21 <sup>†</sup>

*Note.* Happy Faces:  $R^2 = .06$  ( $p = .08$ ) for Step 1;  $\Delta R^2 = .05$  ( $p = .04$ ) for Step 2. Angry Faces:  $R^2 = .05$  ( $p = .16$ ) for Step 1;  $\Delta R^2 = .04$  ( $p = .07$ ) for Step 2. <sup>†</sup> $p < .10$ . <sup>\*</sup> $p < .05$

Results of Study 2 support our hypotheses. As expected, we found congruence between explicit motivation, social stimulus, and behavior. Reactions to happy faces were associated with social approach motivation, reactions to angry faces with social avoidance motivation. More importantly, social approach and avoidance motivation interacted in predicting reactions to both, happy and angry faces, suggesting that the co-occurring motivation has a unique effect on reactions to social stimuli beyond the main effects.

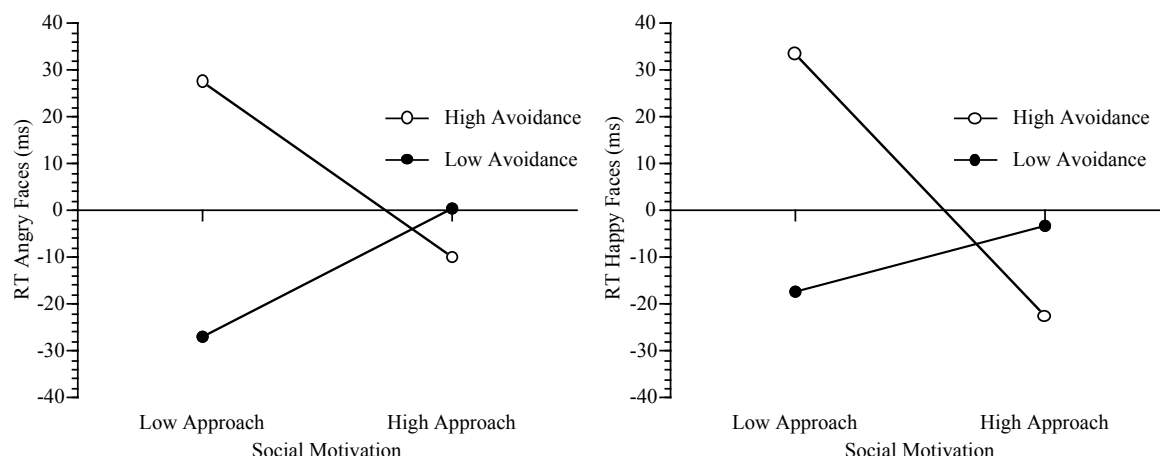


Figure 6. Part II, Study 2. Social approach and avoidance motivation predicting RTs to happy (left diagram) and angry (right diagram) faces computed for values 1 *SD* below (Low) and 1 *SD* above (High) the mean of the approach and avoidance score. Zero score corresponds to the sample mean (happy faces  $M = 204.71$  ms, angry faces  $M = 235.73$  ms).

Unexpectedly, avoidance motivation did not predict faster but slower reactions to angry faces. Moreover, both interaction diagrams show the same pattern. Low approach together with high avoidance motivation was associated with slower reaction times to both happy and angry faces. Increasing approach motivation or decreasing avoidance motivation reduced this effect. It seems that a predominant avoidance motivation inhibits reactions to all social stimuli, whether positive or negative.<sup>4</sup> In line with these results, Dewitte and DeHouwer (2008) found that high attachment anxiety (which might be related to social avoidance motivation) was associated with redirecting attention from both happy and angry faces. Moreover, in another study on responses to rejection cues, Zayas and colleagues (Zayas, Shoda, Mischel, Osterhout, & Takahashi, 2008) found that women who were high on attachment avoidance and anxiety were slower at classifying rejecting words in an attachment condition, but not in a nonattachment condition. Based on these findings, we assume that social avoidance motivation is associated with a behavioral inhi-

<sup>4</sup> Importantly, we found no effect of approach or avoidance motivation or their interaction on RTs to neutral stimuli ( $R^2 = .01$ ,  $p = .76$ ;  $\Delta R^2 = .02$ ,  $p = .20$ ). Thus, avoidance motivation is not associated with generally slower reactions but decelerate reactions only to social stimuli.

bition in social contexts. In fact, as found previously (Gable et al., 2003), avoidance motivation correlates positively with the dispositional Behavioral Inhibition System (BIS). BIS is associated with resting anterior brain electrical activity in the right prefrontal cortex, which is a biological substrate of withdrawal behavior and behavioral inhibition (Sutton & Davidson, 1997). One central aspect of the dispositional BIS are worries about making mistakes or doing poorly at something. In the case of social avoidance motivation, these worries might concern especially rejection by others and might be therefore expressed as inhibited reactions to social stimuli. To worry about doing poorly in social situations might lead to a generalized tentative and controlled behavior in social contexts and therefore to behavioral inhibition. In the current study, social approach motivation reversed this inhibition effect of avoidance motivation.

### General Discussion

How do social approach and avoidance motivation affect the processing of and reaction to facial expressions? To address this question, we proposed to consider social approach and avoidance motivation not only separately but also jointly. Moreover, we suggest that, to further our understanding of the role of social motivation for cognition and behavior, it is important to take into account the level of social motivation, namely whether they are represented on an implicit or an explicit level.

Regarding the distinction of approach and avoidance motivation, we expected to replicate previous findings showing that social approach motivation is predominantly associated with the processing of and reactions to positive social information, whereas avoidance motivation is associated primarily with the processing of and reactions to negative social information (as has been repeatedly found in previous research, e.g. Downey et al., 2004; Pietrzak et al., 2005; Strachman & Gable, 2006). The main prediction regarding the joint effect of approach and avoidance motivation was that the activation of both motivations would lead to the processing of and reactions

to both positive *and* negative social information. This should lead to cognitive as well as behavioral ambivalence and to intensification of the main effects of social approach and avoidance motivation. These assumptions were supported in two studies.

In Study 1, participants generally interpreted ambiguous facial expressions in a positive way. However, social avoidance motivation predicted a decrease of the positive and an increase of the negative interpretations. Being high on approach and avoidance motivation at the same time further increased the amount of negative interpretations but did not reduce positive interpretations. Hence, approach-avoidance co-occurrence seems to be associated with *ambivalent* interpretations. In Study 2, social approach motivation predicted faster reactions to positive facial expressions, whereas social avoidance motivation predicted slower reactions to negative facial expressions. The co-occurring motivation reduced reactions times to both positive and negative social stimuli. This suggests high preparedness to react to *all* relevant social stimuli.

The finding of the ambivalent effect of co-occurring approach and avoidance motivation is in line with some previous research. For instance, Mehrabian (1994) found that high approach and high avoidance motivation was associated with dependency on others. Although dependent persons were easily hurt by others, at the same time they were friendly and outgoing, suggesting both negative and positive consequences of the co-occurring motivation. Further support for the ambivalence hypothesis comes from research on the co-occurrence of the personality traits sociability and shyness, which can be characterized as an approach-avoidance conflict (Cheek & Buss, 1981; Schmidt & Fox, 1999; but see Asendorpf, 1989). High sociability *and* high shyness (as compared to low sociability/high shyness) was associated with ambivalent consequences for behavior and experience. For example, high-sociable/high-shy individuals displayed more signs of anxiety (expressed in behavior and autonomic activity) when being involved in a novel social situation: They talked less, averted gaze more, and engaged in more self-manipulation during an interaction with a stranger (Cheek & Buss, 1981; but others failed to confirm this finding, see

Bruch, Gorsky, Collins, & Berger, 1989), and they had higher and more stable heart rate prior to an expected novel social encounter (Schmidt & Fox, 1994).

There are also findings, however, that suggest rather high *intensity* than high negativity of emotional experience associated with high sociability/high shyness. For instance, Schmidt (1999) found that, whereas low-social/high-shy participants exhibit an asymmetry in resting frontal EEG activity (indicating a greater degree of negative affect relative to positive affect), high-social/high-shy participants exhibited significantly less EEG power (indicating a greater intensity of the affective experience, e.g., Schmidt & Fox, 1999). The affective experience of high-sociable/high-shy people, then, was not negative but ambivalent and intense. This ambivalence was further supported by a finding of frequent mixed-handedness among high-social/high-shy individuals, which is also associated with a lack of cerebral lateralization (Spere, Schmidt, Riniolo, & Fox, 2005). Finally, high sociability/high shyness predicted risk for substance use (at least in some cultural contexts; e.g., Santesso, Schmidt, & Fox, 2004). Some researchers reasoned that higher substance use might help high-sociable/high-shy individuals cope with the tension of their approach-avoidance conflict that they experience in social interactions (Cheek & Buss, 1981). Interestingly, in the same studies, shyness alone was associated with rather low substance use, suggesting the inhibitory character of social avoidance motivation. To summarize, approach-avoidance co-occurrence was found to be associated with intense and ambivalent experience and behavior, which is in line with the current findings. Whether this combination is more or less beneficial than being avoidance motivated only is an interesting question for future research.

Our second assumption was that implicit and explicit approach and avoidance motivation differ regarding processes in which they are involved. We expected that implicit motivation affects cognition and behavior in situations with motivationally relevant cues, whereas explicit motivation is activated only in situations that also involve one's self. In such situations, explicit



motivation might overwrite the implicit motivation. Results of the present studies confirm this assumption. Implicit (but not explicit) approach and avoidance motivation predicted interpretations of ambiguous social stimuli (Study 1), whereas explicit (but not implicit) approach avoidance motivation predicted reactions to positive and negative social stimuli (Study 2).

### *Limitations*

The current studies have at least two limitations. Although previous studies repeatedly demonstrated excellent retest-reliability, internal consistency, and validity of both the MMG scales (Gable et al., 2003; Kehr, 2004; Langens & Schmalt, 2002; Sokolowski et al., 2000) and the Mehrabian scales (Mehrabian, 1970, 1994), in the two studies presented here the internal consistencies were somewhat low, which might have contributed to the lack of effects of explicit motivation in Study 1 and of implicit motivation in Study 2. However, we consider this statistical explanation as less likely than the theoretical one. First, there was enough power to find even small effects for each predictor in both studies ( $1 - \beta_{\text{err prob}} = .80$ ,  $\alpha_{\text{err prob}} = .05$ ,  $f^2 = .10$ ,  $N = 80$ , Critical  $F(1,78) = 3.96$ ). Second, the predicted absent effects were found also with subscales that exhibited good reliability (e.g.,  $\alpha = .74$  for explicit approach motivation in Study 1 or  $\alpha = .72$  for implicit avoidance motivation in Study 2).

Another limitation concerns the sample composition. Most of the participants in both studies were women and university students. For more generalizable results, samples with more male participants and with different socio-demographic groups should be conducted.

### *Future Research*

We have several suggestions for future research. In the present studies, we found that approach-avoidance co-occurrence intensifies consequences of avoidance motivation in some situations (Study 1) and consequences of both approach and avoidance motivation in other situations (Study 2). In addition, research on sociability and shyness has shown that the pattern of ap-

proach-avoidance co-occurrence might be rather unstable. An important issue for future research is to explore under which circumstances approach-avoidance co-occurrence intensifies the positive consequences of approach motivation and under which circumstances the negative consequences of avoidance motivation. An interesting question that should be addressed in this context is the one of the interplay of implicit and explicit approach and avoidance motivation. Previous research has shown that implicit and explicit motivation interact in predicting different outcomes (e.g., Brunstein et al., 1998). As of yet, however, it is an open question which role implicit and explicit motivation play for the effects of approach and avoidance co-occurrence.

Another interesting question concerns the trait-state differences between social approach and avoidance motivation. We assumed that approach and avoidance motivations are two independent, rather stable dispositions. To our knowledge, however, there exists no evidence regarding the independence on a state level. Similar to positive and negative affect (e.g., Russell & Carroll, 1999), approach and avoidance might co-occur on trait level but might be two ends of one dimension on state level. Experience sampling methodology would help to shed light on this issue.

### *Conclusions*

In two studies, we showed that social approach and avoidance motivation interact in the processing of and reactions to social information. Social approach motivation had positive consequences for cognitions and behavior, whereas the opposite held for social avoidance motivation. Approach and avoidance co-occurrence was associated with ambivalent cognitions and behavior.

PART III

THE INTERPLAY OF SOCIAL APPROACH AND AVOIDANCE MOTIVATION IN  
BEHAVIOR, AFFECT, AND COGNITION

### Abstract

Three studies investigated the association of social approach and avoidance motivation with cognition, behavior, emotions, and subjective well-being. Study 1 ( $N = 245$ ), a self-report study, showed that approach and avoidance motivation mediated the effects of attachment styles on social anxiety. While avoidance motivation mediated the effect of insecure attachment styles, approach motivation partly mediated the effect of secure attachment style on social anxiety. A secure attachment style was associated with co-occurring approach and avoidance motivation. Study 2, a social-interaction study ( $N = 38$ ), revealed an association of avoidance motivation with a negative experience and passive behavior, and approach motivation with a positive experience and active behavior. Interestingly, the interaction of approach and avoidance motivation predicted engaged behavior and a positive emotional experience. Study 3 ( $N = 203$ ), an online survey, showed that subjective well-being was negatively associated with high avoidance motivation, irrespective of the strength of approach motivation. Taken together, the studies show that social approach and avoidance motivation interact in predicting positive experiences and social behavior in a concrete social situation. However, from the long-term perspective, the negative consequences of social avoidance motivation seem to prevail when approach and avoidance motivation co-occur.

## Introduction

The experience of and reactions to social situations partly depends on a person's expectations about his or her interaction partners. Social approach motivation refers to a general positive expectation for social interactions, i.e., a dispositional orientation towards positive, hoped-for social incentives, whereas social avoidance motivation refers to a general negative expectation, i.e., an orientation away from negative, feared social incentives (McClelland, 1985). Previous research has repeatedly shown that approach and avoidance motivation are largely independent of each other and show differential effects on emotion, cognition, and behavior (e.g., Coats, Janoff-Bulman, & Alpert, 1996; Dickson & MacLeod, 2004; Ebner, Freund, & Baltes, 2006; Förster, Grant, Idson, & Higgins, 2001; Freund, 2006; Gable, 2006; Gray, 1982; Higgins, 1997; Miller, 1944; Nikitin & Freund, 2008a; Sokolowski, Schmalt, Langens, & Pucca, 2000). This implies that social approach and avoidance motivation can *co-occur* within a person (for a detailed discussion see Nikitin & Freund, 2008b).

As of yet, little is known about the effects of co-occurring social approach and avoidance motivation on behavior, cognition, and emotion. The current paper addresses this gap. More specifically, Study 1 explored the role of attachment styles as antecedents of social approach and avoidance motivation and their co-occurrence. Study 2 investigated how social approach and avoidance motivation interact in predicting experience and behavior in an actual social interaction. Finally, Study 3 examined how social approach and avoidance motivation is related to habitual subjective well-being. In all three studies, we tested if co-occurring social approach and avoidance motivation is best characterized by an ambivalent character (e.g., Mehrabian, 1994; Nikitin & Freund, 2008a; Schmidt, 1999) or if the negative pattern of avoidance motivation for cognitions, emotions, behavior, and subjective well-being is buffered when a person is also approach motivated.

*Social Approach and Avoidance Motivation*

Approach motivation is associated with a high sensitivity to and an enhanced processing of positive emotional information (Derryberry & Reed, 1994; Gomez & Gomez, 2002). It leads to high positive affect after obtaining positive outcomes and low positive affect when failing to obtain positive outcomes (Higgins, Shah, & Friedman, 1997). Regarding personality variables, approach motivation is associated with extraversion, behavioral activation (BAS), active coping styles, and positive temperament (Gable, Reis, & Elliot, 2003). In social contexts, approach motivation is associated with processing of neutral social information in a positive way (Strachman & Gable, 2006). Regarding behavior, approach motivation is related to self-confident behavior that is geared towards others, such as involving group members in convivial exchange, positioning oneself in closer proximity to others, making more eye-contact, and showing more self-disclosure as well as listening in conversation with friends (see McAdams, 1992). Consequently, approach motivation leads to social success (McAdams & Powers, 1981; Nurmi, Toivonen, Salmela-Aro, & Eronen, 1996) and high subjective well-being (Elliot, Gable, & Mapes, 2006).

In contrast, avoidance motivation is associated with a high sensitivity to negative cues (Derryberry & Reed, 1994) and an enhanced processing of negative emotional information (Gomez & Gomez, 2002). It leads to high negative affect when a negative outcome occurs and to low negative affect if it does not (Higgins, 1997). Regarding personality variables, avoidance motivation is associated with neuroticism, behavioral inhibition (BIS), passive coping styles, and negative temperament (Gable et al., 2003). In social contexts, avoidance motivation predicts better memory for negative social information, a negatively biased interpretation of ambiguous social cues, and a more negative evaluation of social actors (Downey & Feldman, 1996; Pietrzak, Downey, & Ayduk, 2005; Strachman & Gable, 2006). Moreover, socially avoidance-motivated individuals respond to rejection with greater negativity than others (Downey, Mougios, Ayduk,

London, & Shoda, 2004). Regarding behavior, high avoidance motivation is expressed by avoiding conflict and outperforming others (see Koestner & McClelland, 1992) and by a lack of spontaneous behavior (Schwartz, Snidman, & Kagan, 1999). Although high avoidance-motivated persons do not interact with others less than low avoidance-motivated persons, they see themselves as unpopular and isolated (Mehrabian, 1994). In a dyadic interaction, they rate themselves as less talkative and less extraverted (Schmidt & Fox, 1995). Not surprisingly, then, social avoidance motivation is negatively correlated with social success, subjective well-being, and mental health (Ayduk, Downey, & Kim, 2001; Downey, Freitas, Michaelis, & Khouri, 1998; Elliot et al., 2006; Schmidt & Fox, 1995).

#### *Co-occurring Social Approach and Avoidance Motivation*

A substantial number of studies have investigated social approach and avoidance motivation separately. Little is known, however, about the co-occurrence of high approach and high avoidance motivation.<sup>5</sup> On the basis of previous findings on predominant approach versus predominant avoidance motivation, one might expect an equally high sensitivity to positive *and* negative social cues. As is known from the research on goals and motives, situational cues can activate the corresponding chronic goals and motives (e.g., Bargh & Barndollar, 1996). Thus, in the case of high approach and avoidance motivation, positive as well as negative social cues should activate *both* motivational systems along with their related cognitions, emotions, and behavioral tendencies. Due to the opposing character of these two motivational tendencies (Lewin, 1935), a simultaneous activation should lead to behavioral as well as emotional

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<sup>5</sup> Because the two motivational tendencies are independent, all four combinations of high and low approach and avoidance motivation are possible. Previous research has focused on the two combinations with one clearly dominant motivational tendency and compared the two (i.e., predominant approach vs. predominant avoidance motivation). Being low on both motivations corresponds to a general low affiliation motivation, which is associated with a low sensitivity to social stimuli and therefore not of interest in the current context.

*ambivalence*. Multiple situational cues pointing in different behavioral directions should result in a dilemma as to what to do. Such a behavioral dilemma might be accompanied by an ambivalent emotional experience, the person might feel torn between excitement and apprehension.

The activation of both motivational systems and the associated heightened sensitivity to *all* socially relevant information, however, could also lead to a general readiness to behaviorally and experientially respond to positive as well as to negative aspects of the situation. This hypothesis is supported by previous research. For instance, Schmidt (1999) found that an approach-avoidance conflict, operationalized as habitual high sociability and high shyness, was associated with significantly less resting-frontal EEG power (indicating a greater intensity of the affective experience) but not significant asymmetry in resting EEG activity (indicating an equivalent degree of positive and negative affect) prior to a social interaction. This suggests that participants with an approach-avoidance conflict in social contexts experience ambivalent (positive *and* negative) affect of high intensity. In our own research (Nikitin & Freund, 2008a), we found that co-occurring social approach and avoidance motivation predicted more negative but not less positive interpretations of ambiguous facial expressions, suggesting an ambivalence in the interpretation of social stimuli. Moreover, we found that co-occurring approach and avoidance motivation was associated with faster reactions to positive *and* negative facial expressions, suggesting a high preparedness to react to all kinds of social stimuli. As will be elaborated in more detail in the following sections, the current research moves beyond biases in the interpretation of or the reaction times in responding to isolated social stimuli such as emotional faces to a level of experience and behavior that is closer to a person's everyday experience. In particular, the current studies investigate the association between co-occurring approach-avoidance motivation with the emotional experience of and behavior in an actual social interaction. Moreover, the current studies explore the association of co-occurring approach and avoidance motivation with attachment styles (as antecedents of social motivation), personality



traits (as concomitants of social motivation), and habitual subjective well-being (as consequences of social motivation).

*Antecedents and Concomitants of Social Approach and Avoidance Motivation*

*Antecedents of Social Motivation: Attachment Styles*

Bowlby (1980) proposed that children with a secure attachment style develop internal working models of others as dependable and psychologically available, while children with an insecure attachment style acquire internal working models of others as rejecting or inconsistent. These internal working models are believed to guide relationships in adulthood (Collins & Read, 1994; Mikulincer & Shaver, 2007; Shaver, Collins, & Clark, 1996). Based on this research, we hypothesized that attachment styles are antecedents of social approach and avoidance motivation. On the one hand, attachment styles describe cognitive models that underlie expectations in and interpretations of social situations. On the other hand, they differentiate between feelings of security and anxiety in social relationships. Both are characteristic components of social approach and avoidance motivation.

How are attachment styles associated with social approach and avoidance motivation and their co-occurrence? For answering this question, we used the four-category classification of adult attachment by Bartholomew (Bartholomew, 1990; Griffin & Bartholomew, 1994). This model proposes four prototypical attachment patterns: one secure attachment style and three different insecure attachment styles (fearful attachment, preoccupied attachment, and dismissing attachment). Secure attached individuals are characterized by a sense of self-worth and comfort with intimacy in social relationships. Hence, we expected this attachment style to be predominantly associated with social approach motivation. In contrast, fearful attachment should be predominantly associated with social avoidance motivation because it is related to a pronounced fear of being rejected by others. Preoccupied individuals have a sense of unworthiness but at the same time positive expectations towards others. Both motivate them to depend on others and to

desire excessive closeness in personal relationships. Because of the ambivalent and intense character of this attachment style, we expected that it matches best the combination of high co-occurring approach and avoidance motivation (see also Mehrabian, 1994, for the association of the co-occurring motivation with dependency on others). Finally, dismissing individuals avoid closeness and deny the value of close relationships. We did not expect that this attachment style would be associated with any of the combinations of high approach and/or high avoidance motivation because high affiliation motivation is defined as the desire to establish, maintain, or restore warm relationships with other people (Atkinson, Heyns, & Veroff, 1954; Boyatzis, 1973).

In sum, we expected that a secure attachment style is an antecedent of social approach motivation, insecure-fearful attachment style an antecedent of social avoidance motivation, and insecure-preoccupied attachment style an antecedent of approach-avoidance co-occurrence. Additionally, we hypothesized that social approach and avoidance motivation mediates the effects of secure and insecure attachment styles on social-interaction anxiety, respectively. This should be the case, because motives direct and energize behavior (McClelland, 1985). Hence, they should be more proximal to emotional experience than attachment styles. Approach motivation is characterized by high confidence and low fear in social situations, avoidance motivation by tentativeness and high fear in social situations (Mehrabian, 1994; Pietrzak et al., 2005). Thus, social approach motivation should mediate the association between secure attachment style and low social anxiety, whereas social avoidance motivation should mediate the association between fearful attachment style and high social anxiety. Co-occurrence should mediate the association between preoccupied attachment style and high social anxiety because preoccupied individuals seek acceptance and validation from others but are at the same time anxious about their response (Bartholomew, 1990; Bartholomew & Shaver, 1998).

*Concomitants of Social Motivation: Personality, and Neurobiological Systems*

One of the aims of the current research was to validate the construct of a co-occurrent approach-avoidance motivation. Research by Gable and colleagues (2004) has documented an association between general approach and avoidance motivation and personality (i.e., extraversion, neuroticism) as well as the two neurobiological systems BIS (i.e., *Behavioral Inhibition System*) and BAS (i.e., *Behavioral Activation System*). Extraversion represents a high sensitivity of the appetitive system, neuroticism a high sensitivity of the avoidance system (e.g., Eysenck, 1963; Lucas, Diener, Grob, Suh, & Shao, 2000; Watson & Pennebaker, 1989). BAS and BIS are two independent behavioral systems with underlying neurobiological systems in the brain. BAS is sensitive to signals of reward and BIS to signals of punishment (Gray, 1982; Harmon-Jones & Allen, 1997; Sutton & Davidson, 1997). Gable et al. (2003) found that general approach motivation was associated with BAS and extraversion, whereas general avoidance motivation was associated with BIS and neuroticism. We expected that this should also be true for social approach and avoidance motivation. We did not expect an interaction effect of social approach and avoidance motivation beyond the main effects because we assumed that social approach motivation is a part of the appetitive system and social avoidance motivation a part of the avoidance system. Hence, social approach should be associated only with other constructs of the appetitive system, and social avoidance motivation with constructs of the avoidance system. The hypotheses about antecedents and concomitants were tested in Study 1.

*Social Approach and Avoidance Motivation and Experience of and Behavior in a Social Interaction*

Based on the research reported above (e.g., Downey & Feldman, 1996; Elliot et al., 2006; Koestner & McClelland, 1992; McAdams, 1992; Mehrabian, 1994; Pietrzak et al., 2005; Schwartz et al., 1999), one might expect that, in a social interaction, social approach motivation is associated with positive experiences (i.e., positive activation, positive emotions, and feelings

of control in the situation), positive appraisal of one's own behavior (i.e., self-reported positive approach behavior and high satisfaction with one's own behavior), active behavior in the social situation (as indexed by duration of speaking, see Mehrabian, 1972), and eye-contact (for a summary of the research see Kleinke, 1986). In contrast, in a social interaction, avoidance motivation should be associated with negative emotional experiences (i.e. high nervousness, low positive emotions, and low feelings of control in the situation), negative appraisal of one's own behavior (i.e. concerns about the impression one is giving and low satisfaction with one's own behavior), and passive behavior (indexed by a low frequency and duration of speaking and low eye-contact).

The simultaneous activation of approach *and* avoidance motivation should lead to an ambivalent emotional experience and an ambivalent appraisal of one's own behavior regarding its appropriateness. In addition, the sensitivity to positive and negative social cues should result in high behavioral engagement and a high intensity of the emotional experience, leading to a generally higher arousal. These hypotheses were tested in Study 2.

#### *Consequences of Social Approach and Avoidance Motivation: Subjective Well-Being*

Finally, the current research also tested if the ambivalent experience and behavior of approach-avoidance co-occurrence is more beneficial for subjective well-being than the negative pattern of social avoidance motivation (see also Nikitin & Freund, 2008b). As reported above, social approach motivation is positively and social avoidance motivation negatively related to subjective well-being (e.g., Elliot et al., 2006; Koestner & McClelland, 1992; Pietrzak et al., 2005). It is less clear, however, how co-occurring approach-avoidance motivation relates to subjective well-being. On the one hand, the conflicting character of the contradicting tendencies might lead to low subjective well-being. Also, perceiving both positive and negative aspects of a given situation could be disadvantageous if it leads to an overload of information and emotional as well as behavioral ambiguity. On the other hand, the positive effect of approach motivation

might buffer the negative effect of avoidance motivation on subjective well-being, resulting in a low or no association between co-occurring approach and avoidance motivation and subjective well-being. Finally, co-occurrence might even lead to positive well-being. This might be the case, because the processing of both positive and negative social information might be advantageous for successfully negotiating the balance between distance and proximity, which might be destabilized if one motivational tendency is predominant (Sokolowski & Heckhausen, 2006).

There is some support for these hypotheses in previous literature (Asendorpf, 1989; Asendorpf & Wilpers, 1998; Mehrabian, 1994). Mehrabian (1994) found that, whereas low approach and high avoidance motivation correlated with loneliness, co-occurrence of high approach and high avoidance motivation were associated with being very dependent on others. Although dependent persons were easily hurt by others, they were, at the same time, friendly and outgoing. This, in turn, might be more beneficial for the satisfaction of the need for affiliation than loneliness. Further, Asendorpf (1989, 1990) found that state shyness (which can be understood as a motivational approach-avoidance conflict)<sup>6</sup> was accompanied by ambivalent emotions of high embarrassment and fear but also high interest and moderate enjoyment. In contrast to state shyness, however, Asendorpf found that trait shyness is characterized by an elevated level of anxiety but not positive affect (see Asendorpf, 1989), suggesting that the ambivalent character of a state approach-avoidance conflict shifts to a negative emotional consequences in the long run (but see Asendorpf & Wilpers, 1998). Taken together, there is no clear answer on the question if the co-occurring approach-avoidance motivation is beneficial for

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<sup>6</sup> Some researchers characterize shyness as an motivational approach-avoidance conflict (e.g., Asendorpf, 1989), others characterize shyness rather in terms of social avoidance motivation and shyness *and* sociability as an approach-avoidance conflict (e.g., Schmidt, 1999). It might depend on the investigated outcomes if shyness and sociability interact or show additive effects. For example, state anxiety and behavior in a concrete situation seem to be predicted by an interaction of shyness *and* sociability (e.g., Cheek & Buss, 1981; Schmidt, 1999), whereas long-term affective experience and behavior across different situations might be predicted by shyness and sociability independently (e.g., Asendorpf, 1989).

social experience and subjective well-being. Study 3 investigated the relationship of approach and avoidance motivation and habitual subjective well-being.

### Study 1: Antecedents and Concomitants of Social Approach and Avoidance Motivation

The main purpose of Study 1 was to explore the antecedents of approach and avoidance motivation and, in particular, the co-occurrence of approach and avoidance motivation. We hypothesized that a secure attachment style predicts approach motivation, whereas a fearful attachment style predicts avoidance motivation, and a preoccupied attachment style predicts social approach-avoidance co-occurrence. Moreover, social approach and avoidance motivation was expected to mediate the effect of attachment styles on anxiety of social interactions. Additionally, Study 1 focused on the validation of social approach and avoidance motivation and their co-occurrence. We investigated how social approach and avoidance motivation relates to personality traits (extraversion and neuroticism) and neurobiology (BAS and BIS).

### *Method*

#### *Participants*

Participants were recruited via advertisements in local newspapers in the city of Zurich, flyers, and advertisements in students' mailing lists at the Psychology Department of the University of Zurich. The sample consisted of  $N = 245$  young adults who were mostly students (73.1%; 3.3% were in an apprenticeship). Approximately half of the participants (53.5 %) were employed (47.5% of the students) with the majority of them (75.9%) working part-time. About two thirds of the participants (73.9%) were women. The age-range was between 18 and 49 years ( $M = 26.06$ ,  $SD = 5.95$ ). About half of the participants (46.5%) reported to be in a long-term relationship, 6.5% were married, and 43.6% were single. Three participants were divorced, one was widowed, and two did not specify their marital status. A small group (6.9%) had children.

We ran the computer-based questionnaire study in the Life-Management laboratory at the University of Zurich. All participants gave written informed consent for participation. After participation, they were debriefed and either paid 20 CHF (approximately 20 US \$) or received extra course credit.

### *Measures*

*Social approach and avoidance motivation.* We used the Rejection Sensitivity and Affiliation Tendency Scales (Mehrabian, 1970; German version: Sokolowski, 1986) to assess explicit social approach and avoidance motivation. These scales consist of a total of 47 items describing social behavior and experience. The Affiliation Tendency subscale measures *approach* tendencies with items reflecting a preference for friends and attachments as opposed to independence from others, a preference for group activities versus individual activities, positive feelings associated with the presence of many people, and preference for expressing affection toward people. The Rejection Sensitivity subscale assesses *avoidance* tendencies with items reflecting a preference for behaviors or situations which minimized negative feedback from others, a preference for being spontaneous and expressing desires and feelings (reversed), a preference for warm and accepting people, the inability to refuse favors, concern about being liked, and negative feelings associated with the presence of many people. As is true for all reported response scales (unless explicitly stated otherwise), the response scales ranged from 0 (strongly disagree) to 6 (strongly agree). As expected, social approach and avoidance motivation were not significantly correlated ( $r = -.11$ , *ns*). The descriptive statistics ( $n$ ,  $M$ ,  $SD$ ,  $Alpha$ ) of all constructs of Study 1 as well as sample items are reported in Table 5.

*Attachment styles.* Attachment styles were assessed by the Attachment Style Questionnaire (Feeney, Noller, & Hanrahan, 1994; German version: Hexel, 2004). The Attachment Style Questionnaire is a self-report instrument to measure adult attachment styles. It assesses secure-attachment (confidence scale), insecure-fearful attachment (need for approval

scale), insecure-preoccupied attachment (preoccupation with relationships scale), and insecure-dismissing attachment (discomfort with closeness and relationships as secondary scales). In this study, we used only items with the highest loadings on the corresponding scales.

*Social-interaction anxiety.* Social-interaction anxiety was assessed by the Social-Interaction Anxiety Scale (Mattick & Clarke, 1989; German version: Stangier, Heidenreich, Berardi, Golbs, & Hoyer, 1999). The Social-Interaction Anxiety Scale is a self-report instrument assessing fear to initiate and maintain social interactions with strangers, interaction partners of opposite sex, and friends.

*Extraversion and neuroticism.* Extraversion and neuroticism were measured with the corresponding scales of the short version of the Big Five Inventory (Rammstedt & John, 2005).

*BAS and BIS.* The behavioral activation and inhibition systems were assessed by the BAS and the BIS scales (Carver & White, 1994; German version: Strobel, Beauducel, Debener, & Brocke, 2001). The BAS assesses self-reported sensitivity to reward-relevant cues, activation of behavior, and proneness to experience positive feelings when being exposed to cues of reward. The BIS scale assesses self-reported sensitivity to anxiety-relevant cues, inhibition of behavior, and proneness to anxiety by exposition to the proper situational cues.



Table 5. *Part III. Descriptive Statistics for Constructs of Study 1-3*

Constructs	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Alpha</i>	Sample Item
<b>Study 1</b>					
Approach Motivation (Mehrabian)	23	3.54	0.51	.55	I like to make as many friends as I can.
Avoidance Motivation (Mehrabian)	24	3.05	0.64	.69	I prefer not to go to a place if some of the people don't like me.
Secure Attachment	5	4.17	1.14	.78	I feel secure in contact with others.
Insecure-Fearful Attachment	3	3.03	1.18	.60	It is important for me not to do anything that others don't like.
Insecure-Preoccupied Attachment	3	3.36	1.29	.53	It is very important for me to have a close relationship.
Insecure-Dismissing Attachment	7	2.58	0.82	.63	It stresses me to be dependent on others.
Social-Interaction Anxiety	10	1.86	1.15	.88	I feel nervous if I meet people who I don't know well.
Extraversion	4	3.93	1.23	.80	I am outgoing, sociable.
Neuroticism	4	2.91	1.30	.78	I worry a lot.
BAS	13	4.42	0.69	.77	I often act on the spur of the moment.
BIS	7	3.97	0.98	.77	I worry about making mistakes.
<b>Study 2</b>					
Approach Motivation (Mehrabian)	23	3.69	0.41	.48	I like to make as many friends as I can.
Avoidance Motivation (Mehrabian)	24	2.87	0.66	.77	I prefer not to go to a place if some of the people don't like me.
Alertness (t0/t1/t2)	4	3.29/3.32/3.24	1.18/1.14/1.01	.72/.78/.78	Sleepy (reversed)
Nervousness (t0/t1/t2)	4	2.74/2.13/2.78	1.15/1.06/1.08	.79/.78/.82	Tense
Positive Emotions (t0/t1/t2)	4	4.19/4.50/4.66	1.06/1.02/0.76	.73/.85/.78	Unhappy (reversed)
Happiness (t1/t2/t3/t4/t5)	1	4.55"/4.46"/4.52"/4.44"/4.52"	0.87"/0.87"/0.87"/0.95"/0.80"	—	Unhappy/cheerless vs. happy/cheerful
Arousal/Involvement (t1/t2/t3/t4/t5)	1	3.89"/3.66"/3.51"/3.30"/3.60"	1.22"/0.98"/0.98"/1.14"/1.26"	—	Calm/little involved vs. agitated/involved
Control (t1/t2/t3/t4/t5)	1	3.71"/3.47"/3.40"/3.44"/3.58"	1.22"/1.16"/1.19"/1.13"/1.12"	—	Low control vs. high control
Positive Approach Behavior	8	2.71	0.62	.65	I used a variety of vocal expressions while talking to the interaction partner.
Self-Presentation	4	2.36	1.28	.68	I tried not to do things that would make my interaction partner reject me.
Satisfaction	1	3.95	1.21	—	I was satisfied with my behavior in the interaction.
Duration of Speaking	—	172.21 sec	39.35 sec	—	—
Duration of Eye-contact	—	162.80 sec	31.06 sec	—	—
Eye-contact while Speaking	—	120.80 sec	24.91 sec	—	—
Eye-contact while Listening	—	204.80 sec	37.21 sec	—	—
<b>Study 3</b>					
Approach Motivation (MMG)	12	6.26	2.42	.70	Feeling good about meeting other people.
Avoidance Motivation (MMG)	12	4.98	2.92	.77	Being afraid of being rejected by others.
Alertness	8	3.85	0.98	.89	Sleepy (reversed)
Nervousness	8	3.29	1.00	.89	Tense
Positive Emotions	8	4.24	0.98	.92	Unhappy (reversed)
Life Satisfaction	18	4.51	0.57	.75	In general, I feel I am in charge of the situation in which I live.

*Note.* Responses to happiness, arousal/involvement, and control were given on a visual-analog scale (on lines 6.30" long). Duration of speaking, duration of eye-contact, eye-contact while speaking, and eye-contact while listening are reported in seconds. The MMG scales range from 0 to 12. All other responses were given on a Likert Scale ranged from 0 (strongly disagree) to 6 (strongly agree).

## Results and Discussion

### The Mediation Model

Structural equation modeling (SEM) was used to examine the paths of a mediation model with attachment styles as antecedents, social approach and avoidance motivation and their interaction term as mediators, and social-interaction anxiety as consequence, and to assess the fit of the full hierarchical model of the observed data. The analysis revealed that the model provided an excellent fit to the data,  $\chi^2(6, N = 245) = 6.03, p = .42, GFI = .99, AGFI = .96, CFI = 1.00, RMSEA = .005$ . Moreover, the reversed model of approach and avoidance motivation and their interaction as antecedents for attachment styles provided insufficient fit to the data,  $\chi^2(6, N = 245) = 37.26, p < .001, GFI = .96, AGFI = .80, CFI = .88, RMSEA = .15$ , suggesting that attachment styles are antecedents of social approach and avoidance motivation and not vice versa.

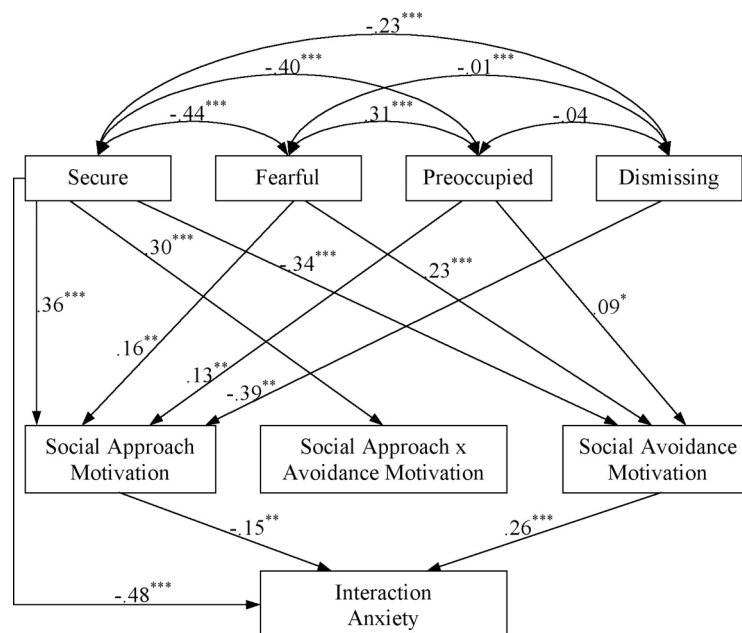


Figure 7. Part III, Study 1. The full hierarchical model for attachment styles, social approach and avoidance motivation and their interaction term, and social-interaction anxiety. The path values are standardized coefficients from the structural equations modeling analyses. Only significant predictions are included in the figure in the interest of presentational clarity. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

The standardized parameter estimates obtained were consistent with most of our hypotheses (see Figure 7). A secure attachment style positively predicted social approach motivation, which, in turn, negatively predicted social-interaction anxiety. In contrast, a fearful attachment style positively predicted social avoidance motivation, which, in turn, positively predicted social-interaction anxiety. Whereas social avoidance motivation fully mediated the association between a fearful attachment styles and social-interaction anxiety, social approach motivation only partly mediated the association between a secure attachment styles and social-interaction anxiety. A secure attachment style and social-interaction anxiety remained significantly negatively associated in the mediation model.

Contrary to our hypothesis, a preoccupied attachment style did not predict the co-occurrence (i.e., interaction) of social approach and avoidance, and the interaction of approach and avoidance did not predict social interaction anxiety. Instead, a secure attachment style positively predicted the interaction of social approach and avoidance. This unexpected result suggests that a co-occurring social motivation is positively associated with a secure attachment style but without positive consequences for social anxiety. This, once more, speaks for the ambivalent character of a co-occurring approach and avoidance motivation. Although securely attached, people with a high social approach *and* avoidance motivation might not directly profit from their secure attachment in terms of diminished social-interaction anxiety.

This finding might provide a hint for the ontogenetic development of the co-occurring social approach-avoidance motivation. One could speculate that people who are high on both motivations had responsive caregivers in their early childhood, so that they could develop a secure attachment. However, they might have negative social experiences later in the life that have led to development of social avoidance motivation. Thus, these people could have both – approach motivation based on their secure attachment and avoidance motivation based on their later negative experience with social partners. The avoidance motivation might inhibit the posi-

tive consequences of the secure attachment. In line with this interpretation, research on social inhibition (e.g., Kagan & Snidman, 1991) suggested that inhibited adults who showed no excessive timidity in early childhood were not temperamentally inhibited, but acquired their inhibited style as a product of experience. This interpretation needs to be investigated in longitudinal studies.

In addition to these main findings, the mediation model also revealed interesting associations between attachment styles and social approach and avoidance motivation (see Figure 7). A secure attachment style was negatively associated with social avoidance motivation. Also, social approach motivation was significantly negatively predicted by a dismissing attachment style and by fearful and preoccupied attachment styles. These findings suggest that social approach motivation is based not only on strong feelings of security in social relationships but also on not being afraid to dependent on others (dismissing attachment) and, to a smaller extend, on concerns about being liked (fearful attachment) and being attached (preoccupied attachment). In sum, this combination might be an expression of the importance of social ties rather than their ambivalence. Moreover, it is still beneficial for social-interaction anxiety, probably due to the strong relation to secure attachment and only very weak relation to fearful and preoccupied attachment styles.

#### *Concomitants of Social Motivation: Personality, and Neurobiological Systems*

To establish convergent and divergent validity of social approach and avoidance motivation as well as their co-occurrence, we used multiple regression analyses entering approach and avoidance in the first step and their interaction in the second step, predicting personality traits (extraversion, neuroticism) and neurobiological systems (BAS, BIS, see Table 6).

As expected, social approach motivation predicted BAS and extraversion, whereas social avoidance motivation predicted BIS and neuroticism. Additionally, we found significant but weaker negative associations between social approach motivation and neuroticism and social

avoidance motivation and extraversion. As expected, there were no interaction effects of social approach and avoidance motivation on the investigated concomitants. Hence, the present results extend previous findings on the two independent approach and avoidance systems to the affiliation domain. Social approach motivation is an expression of an appetitive system that is related to approach motivation, BAS, and extraversion, and social avoidance motivation is an expression of an aversive system that is related to avoidance motivation, BIS, and neuroticism.

Table 6. *Part III, Study 1. Regression Coefficients ( $\beta$ ) of Regression Analyses for Social Approach and Avoidance Motivation Predicting Extraversion, Neuroticism, BAS, and BIS (N = 245)*

Variable	Extraversion	Neuroticism	BAS	BIS
First Step				
Approach	.51***	-.20*	.23***	-.08
Avoidance	-.27***	.41***	-.10	.54***
$R^2$ (p)	.37 (< .01)	.19 (< .001)	.07 (< .001)	.30 (< .001)
Second Step				
Avoidance	.51***	-.11 <sup>†</sup>	.22***	-.08
Approach	-.28***	.39***	-.10	.53***
Approach x Avoidance	.06	-.10	.03	-.05
$\Delta R^2$ (p)	.00 (.67)	.01 (.11)	.00 (.64)	.00 (.38)

Note. <sup>†</sup> $p < .10$ . \* $p < .05$ . \*\*\* $p < .001$ .

To summarize, Study 1 validated social approach and avoidance motivation and their interaction. The results confirmed the hypothesis that social approach is an expression of the appetitive system and social avoidance motivation is an expression of the aversive system. More importantly, we found support for the assumption that attachment styles are antecedents of social approach and avoidance motivation, which, in turn, partly mediate the effect of attachment styles on social-interaction anxiety. We did not find the expected association between a preoccupied attachment style and co-occurring approach and avoidance motivation. Instead, approach-avoidance co-occurrence was positively associated with a secure attachment style. However, it did not mediate between a secure attachment style and social-interaction anxiety.

Study 1 investigated self-reported antecedents and concomitants of approach and avoidance motivation. In Study 2, we tested how social approach and avoidance motivation and their co-occurrence predict experience and behavior in a real social interaction.

### Study 2: Social Approach and Avoidance Motivation and Experience of and Behavior in a Social Interaction

Study 2 examined the effect of habitual social approach and avoidance motivation on self-reported experience of and observed behavior in an actual social interaction. More specifically, we tested how approach and avoidance motivation and their co-occurrence is associated with (1) positive and negative emotional experience (positive and negative activation, positive emotions, arousal, feelings of control), (2) appraisal of one's own behavior (positive approach behavior, concerns about the impression one is giving, and satisfaction with one's own behavior), and (3) observed behavior (active and passive behavior) in the interaction. We analyzed the data using hierarchical regression analyses for social approach and avoidance motivation in the first step and their interaction in the second step, predicting experience of and behavior in the social interaction.

### *Method*

#### *Participants*

Participants were recruited via flyers and advertisements in students' mailing lists at the University of Zurich. The sample consisted of  $N = 38$  female psychology and educational-science students (age  $M = 23.18$ ,  $SD = 3.37$ , range 18 – 34). Half of the participants were single, 47,4% reported to be in a long-term relationship, and one was married.

### *Procedure*

Students who were interested in participating in the study completed an on-line questionnaire on their global emotional experience in the last three months. Approximately two weeks later, they were invited to the laboratory for participation in the social-interaction part of the study. They were told that the purpose of the study was to investigate how people form impressions of strangers. At the beginning of the session, they were asked to fill out the same questionnaire on their emotional experience as two weeks before, but this time we asked them to rate their *momentary* emotional state. Afterwards, they were led to an interaction room that was adjacent to an observation room. A one-way mirror connected the two rooms. The interaction room was equipped by two chairs (facing each other) and three video cameras. Participants were told that their interaction partner (a confederate) had already arrived and was waiting in the interaction room. Participants were introduced to the confederate and asked to sit down and wait for a signal to start the interaction. The experimenter left the room, went to the observation room and gave the instruction via microphone to start the interaction. The entire interaction sequence was videotaped. The task for the participant and the confederate was to get know each other. To avoid possible effects of a romantic interest in the interaction partner, only female participants interacted with a female confederate. The confederate was a 23-year old student who was instructed to behave as neutrally as possible and to leave the participant to take the initiative (i.e., waiting for the participant initiating the conversation, answering questions, asking questions only if the conversation came to a halt of more than 10 seconds, and being polite but not exuberantly friendly). In order to guarantee for standardized behavior on the side of the confederate, she practiced and routinized this behavior in a pilot study.

After five minutes, the participant and the confederate were told via microphone that the time was over and they were led to separate rooms. The participant was asked to complete a questionnaire on her appraisal of her own behavior in the interaction and the emotional-

experience questionnaire pertaining to her current emotional state. Afterwards, the participant watched the videotaped interaction. The first 20 seconds were used to habituate the participant to see herself in the video record.<sup>7</sup> Afterwards, the participant watched the entire interaction sequence. After each minute, the video was stopped and the participant rated her affective experience at the time where the video was stopped. Finally, participants were led to another room where they completed a questionnaire assessing their social approach and avoidance motivation. The session lasted on average 60 minutes.

We ran the study in laboratories of the University of Zurich. All participants gave written informed consent for participation. After participation, they were debriefed. As compensation for participating in the study, participants took part in a lottery for a total of 300 Swiss Francs (approximately 300 USD).

### *Measures*

*Social approach and avoidance motivation.* As in Study 1, we used the Mehrabian scales to assess social approach and avoidance motivation. Basic statistical information (*n*, *M*, *SD*, *Alpha*) for all scales used in this study is provided in Table 5. As expected, social approach and avoidance motivation were not significantly correlated ( $r = -.24$ , *ns*).

*Emotional experience.* The short version of the Multidimensional Mood Questionnaire (MDMF; Steyer, Schwenkmezger, Notz, & Eid, 1994; Steyer, Schwenkmezger, Notz, & Eid, 1997) was used to assess participants' habitual emotional well-being two weeks before the interaction (t0), their emotional state directly before the interaction (t1), and directly after the interaction (t2). The short version of the MDMF consists of 12 adjectives that are aggregated into three sub-scales. The alertness scale assesses positive activation. The nervousness scale assesses negative activation. The positive-emotions scale assesses the valence of the emotional

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<sup>7</sup> We integrated this part after a pilot study revealed that, for the first moment, it can be an unusual and somewhat unpleasant experience to see and hear oneself on a video.



experience. As there were no significant differences between the MDMF-scale scores at t1 and t2 (alertness  $F[1, 34] = 0.33, p = .57$ , nervousness  $F[1, 34] = 0.42, p = .52$ , positive emotions  $F[1, 34] = 1.78, p = .19$ ), we used the averaged score of t1 and t2 (controlled for t0) for all further analyses.

*Assessment of the minute-by-minute emotional experience.* We used the visual-analog scale Self-Assessment Manikin by Bradley and Lang (1994) for assessing the minute-by-minute emotional experience in the social interaction. While watching the videotaped interaction, participants marked on three lines (each 6.30" long) how much they were unhappy/cheerless vs. happy/cheerful (happiness scale), calm/little involved vs. agitated/involved (arousal/involvement scale), and how much (not at all vs. very much) control they had in the situation (control scale). Each of these bipolar items was illustrated with a small manikin expressing the different emotional states. As there were no significant differences of happiness ( $F[4, 31] = 0.50, p = .73$ ), arousal ( $F[4, 32] = 2.43, p = .07$ ), and control ( $F[4, 32] = 1.55, p = .21$ ) over the five measurement points, we averaged the emotional state across the five measurement points for further analyses.

*Appraisal of one's own behavior.* We used the positively formulated items from the short form of the Self-Report of Immediacy Behavior Scale (Richmond & McCroskey, 1998, own German translation) for assessment of *positive approach behavior*. The Immediacy Behavior Scale assesses positively experienced behavior in a social interaction as expressed by statements of spontaneity, vividness, eye-contact, vocal expressiveness, smiling, spacial closeness to the interaction partner, and relaxed body position.

*Concerns about self-presentation* was assessed with two modified items from the brief version of the Fear of Negative Evaluation Scale (Leary, 1983) and two items from the Need to Belong Scale (Leary, Kelly, Cottrell, & Schreindorfer, 2001). The four items assessed the concern of making good impression, striving for acceptance and avoiding rejection.

Finally, the *satisfaction* with one's own behavior in the social interaction was assessed with a single item. Intercorrelations of all constructs of self-reported experience of the social interaction are reported in Table 7.

#### *External Rating of Social Behavior*

Two independent raters rated the social behavior of all 38 participants using the Observer XT Software (Noldus Information Technology, 2006). Duration of speaking was operationalized as the total duration of the time that a participant spoke during the whole five minute interaction sequence. Eye-contact was operationalized as the total duration of time that participant looked in the eyes of the confederate. The interrater reliability between the two raters (intraclass correlation, absolute, single measure) was ICC = .87 for the duration of speaking and ICC = .87 for the duration of eye-contact. In preliminary analyses, we found that the duration of eye-contact while listening and the duration of eye-contact while speaking were differently associated with social approach and avoidance motivation. Thus, we run the analyses separately for eye-contact while listening and eye-contact while speaking.

Table 7. *Part III, Study 2. Intercorrelations Between the Self-Reported Experience and Behavior in the Social Interaction (N = 38)*

	2	3	4	5	6	7	8	9
1. Alertness	-.30 <sup>†</sup>	.58 <sup>***</sup>	.47 <sup>**</sup>	.27 <sup>†</sup>	.24	.33 <sup>*</sup>	-.04	.35 <sup>*</sup>
2. Nervousness	—	-.60 <sup>***</sup>	-.36 <sup>*</sup>	-.01	-.51 <sup>**</sup>	-.35 <sup>*</sup>	.53 <sup>**</sup>	-.63 <sup>***</sup>
3. Positive Emotions		—	.58 <sup>***</sup>	.26	.29	.26	-.36 <sup>*</sup>	.27 <sup>†</sup>
4. Happiness			—	.28 <sup>†</sup>	.18	.46 <sup>**</sup>	-.05	.31 <sup>†</sup>
5. Arousal/Involvement				—	.12	.25	-.04	.10
6. Control					—	.24	-.41 <sup>*</sup>	.50 <sup>**</sup>
7. Pos. Approach Behavior						—	.14	.42 <sup>**</sup>
8. Self-Presentation							—	-.41 <sup>*</sup>
9. Satisfaction								—

<sup>†</sup> $p < .10$ . <sup>\*</sup> $p < .05$ . <sup>\*\*</sup> $p < .01$ . <sup>\*\*\*</sup> $p < .001$ .

### Results and Discussion

To test the influence of social approach and avoidance motivation and their co-occurrence, we used hierarchical regression analyses with the main-effects of social approach and avoidance motivation entered in the first step and their interaction in the second step, predicting the self-reported experience during the interaction and the observed behavior.

#### Emotional Experience

As predicted, social approach motivation was positively associated with positive emotions in the averaged pre-judgement (t1) and post-judgment (t2) of the emotional experience (after controlling for t0 experience), happiness in the minute-by-minute assessment, as well as negatively related to nervousness (see Table 8).

Table 8. *Part III, Study 2. Regression Coefficients ( $\beta$ ) of Hierarchical Regression Analyses for Social Approach and Avoidance Motivation Predicting Self-Reported Emotional Experience in the Social Interaction ( $N = 38$ )*

Variable	Global Emotional Experience			Minute-by-Minute Emotional Experience		
	Alertness	Nervousness	Positive Emotions	Happiness	Arousal/ Involvement	Control
First Step						
Emotional Experience (t0)	.51**	.31 <sup>†</sup>	.53**	—	—	—
$R^2$ ( $p$ )	.26 (.001)	.09 (.06)	.28 (.001)			
Second Step						
Approach	.21	-.30 <sup>†</sup>	.41**	.46**	.07	.25
Avoidance	.17	.27 <sup>†</sup>	-.06	.20	.26	-.12
$\Delta R^2$ ( $p$ )	.06 (.27)	.19 (.02)	.17 (.01)	.20 (.02)	.06 (.31)	.09 (.19)
Third Step						
Approach	.23	-.24	.38*	.36*	-.05	.13
Avoidance	.18	.29 <sup>†</sup>	-.08	.16	.21	-.17
Approach x Avoidance	-.08	-.20	.12	.28 <sup>†</sup>	.37*	.37*
$\Delta R^2$ ( $p$ )	.01 (.61)	.04 (.19)	.01 (.37)	.07 (.08)	.12 (.03)	.12 (.03)

Note. The first-step statistics reports alertness, nervousness, and emotions of t0 (two weeks before the social interaction). <sup>†</sup> $p < .10$ . \* $p < .05$ . \*\* $p < .01$ .

In contrast, social avoidance motivation was positively related to nervousness, indicating a negative activation in the social interaction when being fearful of rejection from the social partner. Interestingly, the interaction of social approach and avoidance motivation positively predicted arousal as well as happiness in the social interaction, supporting the hypothesis that approach-avoidance co-occurrence is associated with an ambivalent experience.

The interaction of social approach and avoidance motivation also predicted feelings of control in the social interaction. Note, that this was not the case for approach motivation alone. One might speculate that, because co-occurring approach and avoidance motivation is associated with anxiously seeking acceptance and validation from others (Bartholomew & Shaver, 1998), it leads to high engagement in the social interaction and to feelings of responsibility for the success of the social interaction. Thus, feelings of control might reflect engagement and feelings of responsibility rather than a dominance-based controlling the situation. In contrast, social-approach motivated individuals might just enjoy the social exchange without feeling responsible for its outcome. Expecting a positive social exchange and a benevolent social partner, they might not feel a need to control the situation. Alertness was unrelated to social motivation.

#### *Appraisal of One's Social Behavior*

As hypothesized, social approach motivation predicted self-reported positive approach behavior and satisfaction with one's social behavior (see Table 9). In contrast, social avoidance motivation predicted concerns about self-presentation which might reflect a fear of possible negative judgments by the interaction partner. In contrast to the association of the interaction of approach and avoidance motivation with positive approach behavior, concerns, *and* satisfaction, reflecting the ambivalent character of the co-occurring motivation, it did not predict the appraisal of one's own behavior.

*Observed Behavior*

As predicted, social approach motivation was positively and avoidance motivation negatively associated with the duration of speaking in the interaction (see Table 9), supporting the active and passive character of the motivations, respectively.

Table 9. *Part III, Study 2. Regression Coefficients ( $\beta$ ) of Hierarchical Regression Analyses for Social Approach and Avoidance Motivation Predicting Appraisal of One's Own Behavior and Observed Behavior in the Social Interaction ( $N = 38$ )*

Variable	Appraisal of One's Own Behavior			Observed Behavior		
	Positive			Duration of		
	Approach Behavior	Self-Presentation	Satisfaction	Eye-contact while Speaking	Eye-contact while Listening	
<b>First Step</b>						
Approach	.40*	-.13	.31 <sup>†</sup>	.33*	.29 <sup>†</sup>	-.33*
Avoidance	.25	.39*	-.13	-.28 <sup>†</sup>	-.04	.34*
$R^2$ ( $p$ )	.18 (.03)	.19 (.03)	.13 (.08)	.23 (.01)	.09 (.20)	.27 (<.001)
<b>Second Step</b>						
Approach	.39*	-.09	.26	.18	.18	-.31 <sup>†</sup>
Avoidance	.25	.40*	-.15	-.30 <sup>†</sup>	-.04	.34*
Approach x Avoidance	.02	-.11	.16	.16	.31 <sup>†</sup>	-.05
$\Delta R^2$ ( $p$ )	.00 (.88)	.01 (.49)	.02 (.35)	.02 (.32)	.09 (.07)	.00 (.75)

Note. <sup>†</sup> $p < .10$ . \* $p < .05$ .

Regarding eye-contact, social approach motivation predicted negatively and social approach motivation positively the duration of eye-contact while listening. Both motivations interacted in predicting eye-contact while speaking. The higher both motivations were, the more people looked in the eyes of their interaction partner while they spoke. Although we predicted that the total duration of eye contact is an expression of positive exchange and active behavior in a social interaction (Kleinke, 1986), eye-contact might have different functions depending on its occurrence while speaking versus listening. Whereas a high amount of eye-contact while listening is positively correlated with submissiveness, a high amount of eye-contact while

speaking *and* listening is positively correlated with dominance (Dovidio & Ellyson, 1982). Thus, social avoidance motivation might be associated with high submissiveness and social approach motivation with low submissiveness, which is in line with previous research. The more eye-contact while speaking of the co-occurring motivation cannot be interpreted as visual dominance because it is unrelated to more eye-contact while listening. One possible explanation is that because of the anxiously seeking of acceptance and validation from others, approach-avoidance motivated individuals (online) monitor the reactions of others on what they say in order to immediately adjust their behavior if they would detect signs of rejection. However, at this time this interpretation is speculative and awaits further testing.

To summarize: As predicted, results showed that, in addition to main effects of approach and avoidance motivation on the experience of and behavior in social interactions, there were also interaction effects of approach and avoidance motivation. To our knowledge, this is the first study to demonstrate that co-occurring approach and avoidance motivation is an important predictor of social experience and behavior in an actual social situation.

Confirming our expectations, social approach motivation was associated with positive experience of and active behavior in the social interaction, as expressed in low nervousness, positive emotions, positive approach behavior and satisfaction of one's own behavior, as well as active, non-submissive behavior. This corresponds to the confident and positive character of social approach motivation. In contrast, and again as expected, avoidance motivation was associated with negative experience of and behavior in the social interaction as expressed in high arousal combined with concerns about impression one is giving and passive submissive behavior. This is in line with the fearful and inhibited character of social avoidance motivation.

Social approach and avoidance motivation interacted in predicting the experience of and behavior in the social interaction. The co-occurrence of approach and avoidance motivation generally intensified the emotional experience in the interaction. As predicted, co-occurrent

social approach and avoidance motivation proved to be ambivalent: It was associated with both high arousal and positive emotions. Moreover, it predicted the self-reported control in the situation, which might be an expression of feelings of responsibility for its outcome. Finally, it was associated with high duration of eye-contact while speaking, which could be interpreted as monitoring of the interaction partners' reactions. Thus, high approach together with high avoidance motivation might be best described in terms of an ambivalent experience of and a high involvement in social interactions.

Study 1 and 2 showed that social approach motivation has clearly positive, social avoidance motivation clearly negative, and social approach-avoidance co-occurrence ambivalent consequences for cognitions, emotions, and behavior in social contexts. In Study 3, we investigated if the ambivalent character of approach-avoidance co-occurrence is more beneficial than the negative character of social avoidance motivation.

### Study 3: Consequences of Social Approach and Avoidance Motivation

Study 3 was an online questionnaire study assessing dispositional social approach and avoidance motivation and habitual subjective well-being. Subjective well-being was defined as frequently experienced positive affect, infrequently experienced negative affect, and high life satisfaction (e.g., Diener & Lucas, 1999). As discussed above, we expected that social approach motivation is associated with frequent positive affect, infrequent negative affect, and high life satisfaction. The opposite was predicted for social avoidance motivation. Regarding the co-occurrence of approach-avoidance motivation, we had two alternative hypotheses. On the one hand, approach-avoidance co-occurrence might be more beneficial for subjective well-being than social avoidance motivation. On the other hand, one could also argue that avoidance motivation might dampen the positive effects of approach motivation or even leads to negative consequences because of its conflictual and ambivalent character. Some support for the potential

dominant long-term effect of avoidance motivation was provided by a preliminary study with high-school students ( $N = 72$ , 68.5% females, age  $M = 18.64$ ,  $SD = 0.86$ , range 18 – 21 years) revealed that neither social approach motivation nor the interaction of social approach and avoidance motivation were associated with subjective well-being, whereas social avoidance motivation significantly predicted all of them in the expected direction (see Table 10; all constructs were operationalized in the same way as in Study 3). These findings suggest that social avoidance motivation plays a dominant role for habitual subjective well-being. If this is true, social avoidance motivation should dominate the effect of approach-avoidance co-occurrence on subjective well-being.

Table 10. *Part III, Study 3. Regression Coefficients ( $\beta$ ) of Regression Analyses for Social Approach and Avoidance Motivation Predicting Habitual Subjective Well-Being in the Preliminary Study of Study 3 ( $N = 72$ )*

Variable	Alertness	Nervousness	Positive Mood	Life Satisfaction
First Step				
Approach	-.02	-.11	.07	.06
Avoidance	-.28*	.24*	-.34**	-.41***
$R^2$ ( $p$ )	.08 (.06)	.06 (.11)	.12 (.01)	.17 (< .01)
Second Step				
Approach	-.02	-.11	.07	.06
Avoidance	-.29*	.25*	-.35**	-.43***
Approach x Avoidance	.05	.07	.04	.07
$\Delta R^2$ ( $p$ )	.00 (.66)	.01 (.56)	.00 (.73)	.01 (.54)

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

## Method

### Participants

Participants were recruited via web-based advertisements and advertisements in students' mailing list at the University of Zurich. The sample consisted of  $N = 203$  adults (68.0% females, age  $M = 33.62$ ,  $SD = 13.65$ , range 18 – 69 years, 21.2% did not indicate their age). Due to the time-constraints in the web study, we did not assess further socio-demographic information. A



commercial survey website (www.surveymonkey.com) was used for designing the survey and collecting the data.

### *Measures*

*Social approach and avoidance motivation.* We used the Multi-Motive-Grid (MMG; Sokolowski et al., 2000) to assess social approach and avoidance motivation. The Multi-Motive-Grid consists of 14 pictures of different social situations, each accompanied by a set of 4 to 10 statements. Participants are asked to endorse those statements that, in their view, match best a given picture. Motives scores are calculated by summing across pictures number of endorsed items reflecting a certain motive (affiliation, achievement, power). We used only the affiliation-motive subscale. In this subscale, motive scores can range from 0 to 12 for (a) approach and (b) avoidance motivation. Basic statistical information for all scales used in Study 3 is provided in Table 5. As expected, social approach and avoidance motivation were uncorrelated ( $r = -.01, ns$ ).

*Subjective well-being.* We used the full version of the Multidimensional Mood Questionnaire (MDMF; Steyer et al., 1994; Steyer et al., 1997) to assess *affective well-being*. Participants rated retrospectively their affective well-being for the last three months. The full version of the MDMF contains 24 adjectives that are aggregated in three affective scales (each consisting of 8 items): alertness, nervousness, and positive emotions (see Study 1).

*Life satisfaction* was assessed with the short version of the Ryff Scales (Ryff & Keyes, 1995; German in Staudinger, Fleeson, & Baltes, 1999). The Ryff Scales assess psychological well-being in six distinct dimensions of autonomy, environmental mastery, personal growth, positive relation with others, purpose in life, and self-acceptance.

### *Results and Discussion*

We analyzed the data using hierarchical regression analyses for social approach and avoidance motivation in the first step and their interaction in the second step, predicting habitual alertness, nervousness, positive emotions, and life satisfaction.

The results of Study 3 replicated the findings of the preliminary study. Social avoidance motivation significantly predicted all investigated dimensions of subjective well-being, whereas neither social approach motivation nor the interaction of approach and avoidance interaction predicted subjective well-being (see Table 11). As predicted, social avoidance motivation was negatively associated with alertness, positive mood, and life satisfaction, whereas it was positively associated with nervousness. In sum, the results of Study 3 suggest that irrespective of the positive character of social approach motivation in social contexts found in the previous two studies, it did not predict habitual subjective well-being. We found also no effect of the interaction between social approach and avoidance motivation. Habitual subjective well-being, then, is predicted exclusively by social avoidance motivation.

Table 11. *Part III, Study 3. Regression Coefficients ( $\beta$ ) of Regression Analyses for Social Approach and Avoidance Motivation Predicting Habitual Subjective Well-Being ( $N = 203$ )*

Variable	Alertness	Nervousness	Positive Mood	Life Satisfaction
First Step				
Approach	.08	.05	-.05	.02
Avoidance	-.22**	.25***	-.27***	-.37***
$R^2$ ( $p$ )	.05 (< .01)	.06 (.001)	.07 (< .001)	.14 (< .001)
Second Step				
Approach	.07	.04	-.05	.03
Avoidance	-.22**	.25***	-.27***	-.37***
Approach x Avoidance	-.06	.05	.00	.01
$\Delta R^2$ ( $p$ )	.00 (.43)	.00 (.48)	.00 (.95)	.00 (.91)

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

## General Discussion

The main goal of the present research was the investigation of the effect of co-occurring social approach and avoidance motivation on social experiences and behavior. To our knowledge, the present set of studies is the first one to empirically investigate the joint effect of approach and avoidance motivation in the social realm.

We argued that both motivations should be taken into account simultaneously for fully understanding social motivation. Our main assumption was that the interaction of approach and avoidance motivation has a unique effect on the experience of social interactions, social behavior, and habitual subjective well-being that go beyond the main effects of social approach and avoidance motivation. Three studies investigated this hypothesis on different levels of analysis: 1) On the level of the relation of approach and avoidance motivation to personality variables, 2) on the level of an actual social interaction, and 3) on the level of habitual subjective well-being.

In all three studies, social approach and avoidance motivation were uncorrelated, confirming their independence. Social approach motivation was associated with a secure attachment style and partly mediated the positive effect of a secure attachment style on social-interaction anxiety. In line with previous research, social approach motivation had positive consequences for the experience of and behavior in a social interaction. Unexpectedly, social approach motivation did not predict habitual subjective well-being. As predicted and in contrast to approach motivation, social avoidance motivation was associated with a fearful attachment style and mediated the negative effect of an insecure attachment style on social-interaction anxiety. It had negative consequences for the experience of and behavior in a social interaction. As expected, avoidance motivation negatively predicted habitual subjective well-being.

Regarding the main research question of the current studies, co-occurrence of social approach and avoidance motivation, we found first empirical support for the prediction that social approach and avoidance motivation interact in predicting cognitions, emotions, and behavior. This provides empirical evidence for the ambivalent character of co-occurring approach and avoidance motivation. More specifically, we found cross-sectional evidence that a secure attachment style is predictive of the co-occurrence of social approach and avoidance motivation. Interestingly, however, in the case of approach-avoidance co-occurrence, a secure attachment style does not show positive consequences for social-interaction anxiety. Turning to a real social

interaction, we showed that a co-occurring approach and avoidance motivation was associated with both high arousal and high positive emotions in a social interaction. It predicted high control over the situation and an ambivalent pattern of eye-contact. This finding can be interpreted as suggesting high feelings of responsibility for the outcomes of the social interaction rather than dominant behavior. Finally, the habitual subjective well-being of the co-occurring motivation was impaired by the negative consequences of social avoidance motivation that was not compensated by social approach motivation.

Regarding the ambivalent experience of and behavior in social situations, we speculate that social-approach motivated individuals simply enjoy social situations without being concerned about the impression that they are giving or about the outcomes of the social interaction. In contrast, social approach *and* avoidance motivated individuals are dependent on the acceptance of their interaction partners and, therefore, are highly engaged and make a great effort to succeed in a social interaction. Thus, they are happy that they could socialize but at the same time aroused because they fear the rejection of others. This could also explain the pattern of their eye-contact during social interaction (i.e., monitoring the reactions of the social-interaction partner) and feelings of control over the situation (i.e., feeling responsible for the outcome of the situation). In contrast, social avoidance motivation is driven only by the fear of being rejected and, therefore, is associated with nervousness, inhibition, and negative experience in the social situation.

An unexpected result of Study 1 was that social approach and avoidance co-occurrence is associated with a secure attachment style but without its positive consequences for social interaction anxiety. This result could be interpreted in terms of the development of the co-occurring approach and avoidance motivation. Securely attached individuals might have developed an avoidance motivation as a consequence of later negative social experiences. This interpretation is in line with Kagan and Snidman (1991) who hypothesized that this might be true for adult inhibi-

tion of previously not inhibited children. The question is if the reversed development is also possible (i.e. from insecure-attached children to approach-avoidance motivated adults). In fact, Kagan and Snidman (1991) assumed that this should be even more often the case than the other way around. These questions should be addressed in future longitudinal studies.

The second unexpected result was the absence of a positive association between social approach motivation and habitual subjective well-being in Study 3. We found a generally high subjective well-being in the sample (far above the scale mean), which is in line with previous research on happiness (e.g., Diener & Diener, 1996). One could speculate that this high subjective well-being might be diminished by social avoidance motivation but cannot be further enhanced by social approach motivation. Regarding approach-avoidance co-occurrence, one theoretical interpretation of the reduced subjective well-being might be the accumulation of the ambivalent experiences. As discussed in the introduction, Asendorpf and colleagues found that while the approach-avoidance conflict of state shyness can be described as mixed or ambivalent feelings, trait shyness is characterized by an elevated anxiety but not positive affect (see Asendorpf, 1989). Thus, the continuous high arousal and ambivalence in social situations might, in sum, lead to negative habitual subjective well-being. However, approach-avoidance motivated individuals are in the long-term not lonelier than social-approach motivated individuals (Asendorpf & Wilpers, 1998). Hence, they should have enough possibilities to satisfy their affiliation needs, which might, in turn, lead to higher subjective well-being. The high engagement of social approach-avoidance motivated individuals in social contexts might have positive consequences for their social relationships. However, approach-avoidance motivated individuals might be also highly dependent on the evaluation of others, which might make them more vulnerable for fluctuations in social success and failure. This, in turn, might lead to long-term lower subjective well-being. To test this interpretation, future research needs to address long-term consequences of implicit approach and avoidance motivation, preferably by using diary methods.

The current studies have some limitations but can serve as basis for further research. First, regarding the samples of the studies: The sample of Study 1 was fairly small (38 participants). Hence, results of this study should be generalized with caution. Moreover, most of the participants in all studies were female university students. For more generalizable results, samples with more male participants and with different socio-demographic groups should be conducted.

Regarding the operationalization of social approach and avoidance motivation: We tried to base the assessment of social approach and avoidance motivation on different measures so as to avoid possible measurement effects. In Studies 1 and 2, we used the Mehrabian Scales, in Study 3 the Multi-Motive-Grid. However, there are also systematic differences between these two ways of assessing social motivation that might have influenced the results. While the Mehrabian Scales are comprised of self-descriptive statements that assess the explicit social motivation, the MMG is a semi-projective instrument, which is assumed to assess primarily implicit motives (see Kehr, 2004). Implicit and explicit motives have different consequences for emotions, cognitions, and behavior (e.g., McClelland, Koestner, & Weinberger, 1989). Thus, the differences between the studies might be partly due to the different assessments of social motivation.

Finally, all of the studies are cross-sectional. To investigate the antecedents and long-term consequences of social motivation, however, necessitates longitudinal studies. It would also be interesting to use experience sampling methods for the investigation of the effects of social approach and avoidance motivation for the experience of and behavior in social interactions in everyday life.

One of the strengths of the current studies is the multi-methods approach, comprising self-report, external behavior observation as well as self-ratings of one's own video-typed social

behavior. Across these different levels of analysis and measures, we found converging evidence for the ambivalent character of co-occurring approach and avoidance motivation.

## OVERALL DISCUSSION

The main focus of this thesis was on the interplay of social approach and avoidance motivation in cognitions, emotions, and behaviors. Using a multi-method approach, it tested the main hypothesis that social approach-avoidance co-occurrence has different antecedents, concomitants, and consequences compared to predominant approach and avoidance motivation. The following sections summarize and interpret the findings of all presented studies, discuss further questions that arise from these findings, and draft ideas for future research. In doing so, the focus is on several broader issues. First, the differential consequences of social approach and avoidance motivation and their interaction are discussed from both a short-term and long-term perspective. The following sections address the general development of approach and avoidance motivation throughout the life span as well as the individual trajectories of this development. The focus turns then to the dissociation of implicit and explicit social approach and avoidance motivation and, finally, to the approach and avoidance motivation in other motivational domains.

### Differential Influence of Social Approach and Avoidance Motivation and Their Interaction

Taking into account past research, Part I discussed the influence of social approach and avoidance motivation and their co-occurrence on different life-phases. It argued that in transitional phases, particularly in the transition from adolescence to adulthood, social approach motivation leads to social success and high subjective well-being, whereas social avoidance motivation leads to social failure, loneliness, and low subjective well-being. Clearly, young adults who have a high social approach motivation should fare much better when entering new social circles. They perceive their social environment generally as welcoming and positive, as an opportunity for affiliation and belonging. Avoidance-motivated young adults, in contrast, should have a much harder time, as they perceive their social environment as potentially hostile and filled with the risk of being rejected.



Approach-avoidance co-occurrence was discussed in terms of ambivalent cognitions, emotions, and behaviors. However, with regards to well-being, we concluded that it should lead to higher subjective well-being than predominant avoidance motivation. The first main argument leading to this conclusion (based on research by Asendorpf & Wilpers, 1998, and Cutrona, 1982) was that young adults high on both approach and avoidance motivation are motivated to persevere in their efforts to socialize and make new friends and, therefore, can overcome their initial loneliness after the transition into new social environments. The second main argument was that these young adults are probably likely to show a less stable pattern of social behavior than the predominant approach-motivated and avoidance-motivated individuals. As approach-avoidance co-occurrence should be associated with high sensitivity to *both* positive and negative social incentives, this kind of motivation should be more situationally dependent than predominant approach or avoidance motivation, leaving the possibility to have both positive and negative experiences and not primarily negative experiences as in the case of social avoidance motivation.

We found support for the instability of cognitions and behavior of the co-occurring approach-avoidance motivation in both studies of Part II. The higher the social approach *and* avoidance motivation were, the more negatively but not less positively individuals interpreted ambiguous social cues, and the more readily they reacted to both positive and negative social cues. Moreover, in the second study of Part III, approach and avoidance motivation interacted in predicting high arousal but also high positive affect and control in social interaction, suggesting again an ambivalent experience of the situation. However, in Study 3 of Part III, the global subjective well-being was predicted exclusively by social avoidance motivation. Thus, irrespective of the approach motivation, subjective well-being in approach-avoidance co-occurrence was diminished because of the high avoidance component.

Taking all these results together, it could be speculated that some cognitive, emotional, and behavioral processes are influenced only by social approach motivation, others only by so-

cial avoidance motivation, and others by the interaction of social approach *and* avoidance motivation. So, for example, social approach motivation might lead to perseverance in socializing and making new friends or, in other words, to enduring exposure to social situations (see also Gable, 2006), as found in the studies by Cutrona (1982) and Asendorpf and Wilpers (1998). In contrast, social avoidance motivation alone might influence global subjective well-being (not surprising, given the highly significant association with neuroticism as found in Study 1 of Part III). Finally, social approach and avoidance motivation might interact in predicting behavior in and experience of a concrete social interaction (as found in Study 2 of Part III) as well as in the evaluation of and reaction to isolated social cues (as found in Study 1 and 2 of Part II). In other words, social approach and avoidance motivation might interact in a single situation but might have different main effects and no interaction effects in their long-term consequences. In support of this assumption, Asendorpf (1989) found that shyness (as an approach-avoidance conflict) is positively related to ambivalent feelings (i.e., happiness and fear) on a state level but negatively related to happiness on a trait level. This could mean that on a state level, social approach and avoidance motivation interact in predicting the emotional experience, whereas on a trait level, the negative consequences of avoidance motivation prevail. This is also in line with the results of our studies. Approach-avoidance motivation was positively associated with ambivalent feelings (i.e., happiness and arousal) in a concrete social situation (Study 2, Part III) but only avoidance motivation predicted global subjective well-being (Study 3, Part III). Future research should address the issue of under which circumstances social approach and avoidance motivation and their co-occurrence play different roles.

#### The Development of Social Approach and Avoidance Motivation Throughout the Life Span

The next interesting question focuses on the development of social approach and avoidance motivation and their co-occurrence throughout the life span. As discussed in Part I, social

motivation might be influential in transitional phases, particularly in the transition from adolescence to young adulthood. In this phase, young adults have to accomplish developmental tasks that are closely linked to establishing new social relationships (e.g., finding a romantic partner or building meaningful social ties and friendships with peers, c.f. Eccles et al., 2003; Erikson, 1980; Gullotta et al., 1990), without having much experience of how to manage these situations. Social approach and avoidance motivation and their co-occurrence might play an important role in these highly social tasks, which are characterized by novelty. Later in life, when the main social bonds are established and many social situations are familiar and predictable, social approach and avoidance motivation might gradually lose their importance. One might live in a relatively stable social network without being under pressure to establish important new social ties. With increasing age, the focus shifts from making new social ties to maintaining existing ones and concentrating more attention on a few but qualitatively high social ties (Carstensen, Fung, & Charles, 2003). Given that social approach and avoidance motivation is particularly influential in establishing new social relationships, the general development of the influence of social approach and avoidance motivation and their co-occurrence might therefore follow a form of a right-skewed reversed U-curve, rapidly increasing from early childhood to adolescence (based on the accumulation of unfamiliar social situations), peaking in young adulthood (based on the developmental tasks associated with establishing a number of new social ties), and gradually decreasing towards old age (based on the increasing concentration on several relevant social relationships). Cross-sectional and longitudinal studies are needed to test this hypothesis.

#### Individual Trajectories of the Development of Social Approach and Avoidance Motivation

Besides the general development of social approach and avoidance motivation and their co-occurrence, there might be also different individual developmental trajectories. We have already discussed the results of Study 1 (Part III) on association between attachment styles as an-

tededents of social approach and avoidance motivation and their co-occurrence. Among other things, we found that secure attachment style positively predicted social approach motivation, which, in turn, partly mediated the effects of secure attachment style on low social-interaction anxiety. An insecure-fearful attachment style (and lack of secure attachment style) positively predicted social avoidance motivation, which, in turn, mediated the effects of insecure attachment style on high social-interaction anxiety. Finally, a secure attachment style positively predicted social approach and avoidance interaction, but without the positive consequences for social-interaction anxiety. As discussed in Part III, this result could be interpreted in terms of the development of social approach-avoidance co-occurrence. Securely attached individuals might have developed avoidance motivation as a consequence of later negative social experiences (or vice versa).

This interpretation raises questions about the general mechanisms of changing/ developing social approach and avoidance motivation and their co-occurrence. How stable are the dispositions? If they can change, is it possible to shift entirely from social approach motivation to social avoidance motivation (or vice versa)? This would mean that with contradictory experiences, one could unlearn (in terms of an extinction) the original motivation and develop the other one. For example, an originally approach-motivated individual could experience an accumulation of negative social events and, consequently, his or her approach motivation would change to avoidance motivation. An alternative hypothesis is that the result of contradictory experiences on motivation is always approach-avoidance co-occurrence. This would mean that social approach and avoidance motivation that has developed early in childhood remains influential, irrespective of the additional development of the other motivation. A promising approach to discuss these alternative hypotheses might be the distinction between implicit and explicit motivation.

### Implicit and Explicit Social Approach and Avoidance Motivation

As discussed in Part II, social approach and avoidance motivation can be implicit or explicit (e.g., Elliot et al., 2006; Sokolowski et al., 2000). Implicit motive-dependent processes are non-intentional, triggered directly by the presence of the relevant stimulus, and elicit behavior through affective associative links. These associations may be learned by affective experiences in many situations and probably in early childhood before the development of language (McClelland et al., 1989). Hence, implicit motives are not part of one's language-related self-knowledge. This might be the reason why people have no cognitive access to their implicit motives. In this sense, motives are non-conscious. This does not mean that they are completely beyond awareness, but they are assumed to not be consciously invoked, represented, or modified (Heckhausen, 1991; Schultheiss & Brunstein, 2005).

Explicit motives are part of an individual's self-related, verbally represented knowledge and they can either correspond with implicit motives in certain contexts and behaviors or compete with them (McClelland et al., 1989; Muraven, Tice, & Baumeister, 1998; Schultheiss & Brunstein, 2005). Although individuals might not continuously reflect on their explicit motives, explicit motives are in principle accessible to conscious awareness and can be inferred from self-report (Brunstein et al., 1998). Explicit motives develop later in life than implicit motives (see McClelland et al., 1989). A necessary precursor for their development is the shift from egocentric to nonegocentric thought (e.g., Feffer, 1970). This allows an individual to infer the thoughts, expectations, motives, and intentions of others and to develop self-concept associated with the viewpoint of others on one's self (see Higgins, 1996). Thus, in contrast to implicit motives, explicit motives can be more easily changed during the lifespan as a result of environmental influences.

Turning back to the question of the previous section, one could therefore argue that *explicit* social approach and avoidance motivation is changeable (meaning that it can change as a

result of contradictory experiences), and *implicit* social approach and avoidance motivation is unchangeable (meaning that contradictory experiences lead to the development of approach-avoidance co-occurrence). This assumption allows at least two further conclusions. First, implicit approach-avoidance co-occurrence and explicit approach-avoidance co-occurrence probably develop via different mechanisms. Given that implicit motives cannot be changed, social approach-avoidance co-occurrence on the level of implicit motives has to develop *simultaneously* early in life, probably as a consequence of ambivalent parental behavior. This behavior might lead to the parallel development of both approach and avoidance motivation. In contrast, social approach-avoidance co-occurrence on the level of explicit motives could develop concurrently or shifted or could change to approach or avoidance motivation. In other words, explicit approach and avoidance motivation and their co-occurrence might be less stable and more easily modifiable as a result of environmental influences.

The second conclusion is that social implicit and explicit approach and avoidance motivation can interact. For example, an implicitly avoidance-motivated individual could develop an explicit approach motivation, which would lead to a co-occurring approach-avoidance motivation between implicit and explicit motives. From past research, we know that implicit and explicit motivation are two independent but interacting motivational systems (e.g., Brunstein & Maier, 2005). Although Part II investigated implicit and explicit approach and avoidance motivation separately and found a dissociation of the implicit and explicit motivation, it would be interesting for future research to address the interplay of implicit and explicit social approach and avoidance motivation.

### Approach and Avoidance Motivation in Other Domains

Approach and avoidance motivation is not only characteristic of affiliation motives but can also be distinguished in at least two other motivational areas: achievement motivation (op-

erationalized as hope for success and fear of failure) and power motivation (operationalized as hope for power and fear of power, see Sokolowski et al., 2000). Although this thesis addresses only affiliation motivation, the results of the studies should also be applicable to the domains of achievement and power motivation. This would mean that co-occurrent hope for success and fear of failure interact in predicting cognitions, emotions, and behavior in the achievement domain. Similarly, hope for power and fear of power should interact in the predicting cognitions, emotions, and behavior in the power domain. However, future research has to replicate the findings of this thesis in these domains.

Finally, an interesting issue related to different motivational domains focuses on the congruence or incongruence of approach and avoidance motivation between affiliation, achievement, and power motivation. For instance, one could speculate that an individual can be approach-motivated in the affiliation domain but avoidance-motivated in the achievement domain. This would mean that if a situation comprises both affiliation-related and achievement-related cues, an approach-avoidance conflict would result. It would be an interesting question for future research to investigate whether the approach-avoidance co-occurrence between different motivational domains has different cognitive, emotional, and behavioral concomitants as compared to approach-avoidance co-occurrence in the same motivational domain (as investigated in this thesis).

An alternative question focuses on general approach and avoidance motivation for all three motivational domains. In other words, are individuals who are high in avoidance motivation in the affiliation domain also high in avoidance motivation in the achievement and power domain? And does this also apply to approach and co-occurring motivation? There is some support for this assumption in the studies of Sokolowski and colleagues (reported in Sokolowski et al., 2000). Sokolowski et al. found that approach motivations of the three motivational domains are significantly correlated (between  $r = .52$  and  $r = .75$ , all  $p < .05$ ) and the same is true for

avoidance motivations (correlations between  $r = .65$  and  $r = .73$ , all  $p < .05$ ). These findings support the assumption that there might be a general approach and avoidance motivation, which has an impact on all motivational domains. The same would then be true for approach-avoidance co-occurrence. However, in the present studies, although not reported, we repeatedly found that only social approach and avoidance motivation, not achievement or power approach and avoidance motivation, predicted the investigated social constructs. Hence, taken together, there might be a general approach and avoidance factor over all three motivational domains but with additional differences within the domains.

### Summary

The main message of this thesis is that social approach and avoidance co-occurrent motivation has a unique effect on cognitions, emotions, and behavior, beyond the main effects of social approach and avoidance motivation. Previous research has mainly focused on approach and avoidance motivation separately. By considering both tendencies conjointly, we hope to establish a meaningful extension of our understanding of social motivation and offer new perspectives for future research.



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## ZUSAMMENFASSUNG

Beziehungen knüpfen und aufrechterhalten zu können ist eines der zentralen Merkmale eines gelungenen Lebens. Der Erfolg dabei hängt massgeblich von zwei dispositionalen motivationalen Orientierungen ab: der sozialen Annäherungsmotivation (Hoffnung auf Anschluss) und der sozialen Vermeidungsmotivation (Furcht vor Zurückweisung). Annäherungsmotivation führt zu positiv erlebten und erfolgreichen sozialen Interaktionen, Vermeidungsmotivation ist dagegen mit negativem Erleben und geringem Erfolg in sozialen Situationen verknüpft. Annäherungs- und Vermeidungsmotivation sind zwei unabhängige motivationale Tendenzen, welche auf der dispositionalen Ebene gleichzeitig hohe Ausprägungen haben können. Annäherungs- und Vermeidungsmotivation wurde jedoch bisher überwiegend getrennt untersucht. Die vorliegende Arbeit knüpft an dieser Stelle an. Die zentrale Frage ist, ob Annäherungs-Vermeidungs-Motivation neben Annäherungsmotivation und Vermeidungsmotivation einen zusätzlichen Erklärungswert für das soziale Erleben und Verhalten besitzt. Konkret werden mit verschiedenen Methoden kognitive, behaviorale und emotionale Korrelate der Motivationen untersucht. Die Hauptannahme ist dabei, dass Annäherungs-Vermeidungs-Motivation mit ambivalenten Kognitionen und Emotionen und instabilem Verhalten verbunden ist. Zusätzlich wird untersucht, ob dieser ambivalente Charakter positivere Konsequenzen für das subjektive Wohlbefinden hat als der negative Charakter der Vermeidungsmotivation.

Im Teil I wird aus einer entwicklungspsychologischen Perspektive die Frage diskutiert, wann und wie soziale Annäherungs-, Vermeidungs- und Annäherungs-Vermeidungs-Motivation von zentraler Bedeutung für Erfolg und Misserfolg in transitionalen Phasen sind. Der Übergang von der Adoleszenz ins Erwachsenenalter ist aufgrund des Drucks, viele neue soziale Beziehungen knüpfen zu müssen, ohne gleichzeitig auf Erfahrung aus ähnlichen Situationen zurückgreifen zu können, wahrscheinlich die Phase, in der die motivationalen Dispositionen die grösste Rolle spielen.

Im Teil II werden kognitive Prozesse der Motivationen untersucht. Zwei Studien unterstützen die Annahme des ambivalenten Charakters der Annäherungs-Vermeidungs-Motivation. In Studie 1 ( $N = 78$ ) sollten Bilder mit uneindeutigen Gesichtsausdrücken als positiv oder negativ interpretiert werden. Während Vermeidungsmotivation mit mehr negativen und weniger positiven Interpretationen einherging, korrelierte Annäherungs-Vermeidungs-Motivation mit mehr negativen aber nicht mit weniger positiven Interpretationen. Studie 2 ( $N = 82$ ) untersuchte basale behaviorale Reaktionen auf bedrohliche (verärgerte) und freundliche Gesichtsausdrücke. Annäherungsmotivation korrelierte mit schnelleren Reaktionen auf freundliche, Vermeidungsmotivation mit schnelleren Reaktionen auf bedrohliche und Annäherungs-Vermeidungs-Motivation mit schnelleren Reaktionen auf beide Arten von Gesichtsausdrücken.

Teil III besteht aus drei Studien zu Antezedenzen, Korrelaten und Konsequenzen der Annäherungs- und Vermeidungsmotivation. In Studie 1 ( $N = 245$ ) mediierte selbstberichtete Annäherungsmotivation teilweise den Zusammenhang zwischen sicherem Bindungsstil und niedriger sozialer Interaktionsängstlichkeit. Vermeidungsmotivation mediierte dagegen den Zusammenhang zwischen unsicherem Bindungsstil und hoher sozialer Interaktionsängstlichkeit. Annäherungs-Vermeidungs-Motivation war zwar mit sicherem Bindungsstil verbunden, ohne jedoch positive Konsequenzen für die soziale Interaktionsängstlichkeit zu haben. In einer sozialen Interaktionsstudie (Studie 2,  $N = 38$ ) wurde gefunden, dass Vermeidungsmotivation mit negativem Erleben und passivem Verhalten und Annäherungsmotivation mit positivem Erleben und aktivem Verhalten einhergeht. Die Annäherungs-Vermeidungs-Motivation korrelierte mit hoch engagiertem Verhalten und positivem Erleben. Schliesslich wurde in Studie 3, einer online Befragung ( $N = 203$ ), gezeigt, dass die Vermeidungsmotivation mit negativem subjektiven Wohlbefinden zusammenhängt, unabhängig von der Ausprägung der Annäherungsmotivation. Zusammenfassend unterstützen auch diese drei Studien die Annahme, dass Annäherungs-Vermeidungs-Motivation einen ambivalenten Charakter hat. Obwohl sie mit sicherem Bindungsstil und positi-

vem Erleben in einer sozialen Interaktion einhergeht, sind ihre langfristigen Konsequenzen für das subjektive Wohlbefinden aufgrund der hohen Ausprägung der Vermeidungsmotivation negativ.

Die Ergebnisse der vorliegenden Arbeit erlauben eine neue und differenzierte Sicht der motivationalen Faktoren, die zu Verhaltens- und Erlebensmustern in sozialen Situationen beitragen. Zukünftige Forschung sollte vor allem die Frage der Entwicklung der Annäherungs-, Vermeidungs- und Annäherungs-Vermeidungs-Motivation ansprechen.



## CURRICULUM VITAE

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